REPORT RESUMFS

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COMPUTERS IN HIGHER EDUCATION--EXPENDITURES, SOURCES OF FUNDS, AND UTILIZATION FOR RESEARCH AND INSTRUCTION 1964-65, WITH PROJECTIONS FOR 1968-69. A REPORT ON A SURVEY. BY- HAMBLEN, JOHN W.

SOUTHERN REGIONAL EDUCATION BOARD, ATLANTA, GA.

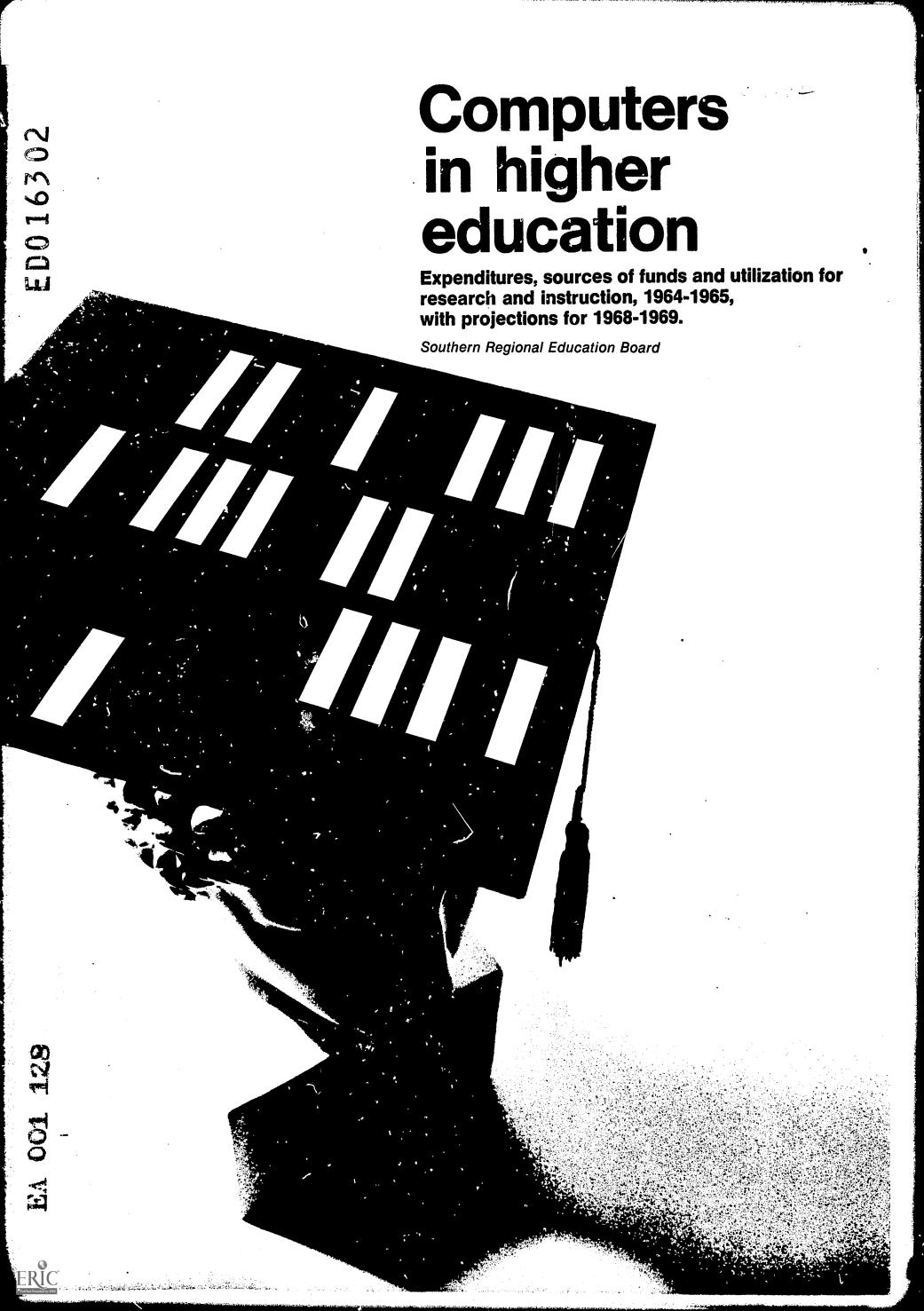
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DESCRIPTORS- *COMPUTERS, *HIGHER EDUCATION, *EDUCATIONAL PROGRAMS, *COMPUTER SCIENCE, *COMPUTER EDUCATION, EXPENDITURES, FINANCIAL SUPPORT, DOCTORAL DEGREES, MASTERS DEGREES, BACHELORS DEGREES, FOST SECONDARY EDUCATION, SURVEYS, PREDICTION, EDUCATIONAL RESEARCH, INSTRUCTION, TABLES (DATA), STATISTICAL ANALYSIS, ATLANTA,

THIS SURVEY RELATES ESTIMATES ON (1) AMOUNT AND SOURCE OF COLLEGE AND UNIVERSITY EXPENDITURES FOR COMPUTERS IN RESEARCH AND INSTRUCTIONAL ACTIVITIES, (2) AVAILABILITY OF COMPUTERS AND DISTRIBUTION OF RESEARCH AND INSTRUCTIONAL USAGE IN GRADUATE AND UNDERGRADUATE ACADEMIC AREAS, AND (3) DEGREE PROGRAMS OFFERED IN COMPUTER SCIENCE. A STRATIFIED RANDOM SAMPLE OF APPROXIMATELY 700 OF THE 2,200 INSTITUTIONS OF HIGHER EDUCATION WAS EMPLOYED TO OBTAIN ESTIMATES FOR THE ENTIRE POPULATION. RECOMMENDATIONS ARE MADE FOR FURTHER STUDY. (HW)





U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE-OFFICE OF EDUCATION

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COMPUTERS IN HIGHER EDUCATION

Expenditures, Sources of Funds, and Utilization for Research and Instruction 1964-65, with Projections for 1968-69

A Report on a Survey Conducted Under a Contract with the National Science Foundation

by John W. Hamblen Director, Computer Sciences Project

Southern Regional Education Board Atlanta, Georgia 30313 August, 1967



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I. DISCUSSION

A. INTRODUCTION

1. Need for Data on Computers in Colleges and Universities

Long before the often-mentioned Rosser Report¹ was completed it became obvious to many government agency officials that a very rapid expansion of the computer facilities of colleges and universities was in the offing. The nation's research and development programs, particularly those related to the nation's defense and space efforts, were already heavily dependent upon the computer. The need for more and more computers in the colleges and universities was foreseen in order for their research programs to keep pace with governmental and industrial research activities, and for their graduates to be knowledgeable as to their use. At the same time it was predicted that the nation's higher institutions must begin to educate thousands of computer scientists and computer technologists.

The Mathematical Sciences Section of the National Science Foundation developed and tested a questionnaire which could be used to provide the kind of information needed for future planning of the relevant government agencies. This questionnaire, with only minor revisions, was used in the survey reported on in this document. (See Appendix E for complete copy of Questionnaire.)

2. Purpose of Survey

How much are colleges and universities spending for computers in their research and instructional activities and where does the money come from? What computers do they have and expect to have, how is the research and instructional usage distributed over academic area and undergraduate vs. graduate use? What degree programs are being offered in computer science and how many students are getting computer education? These are some of the questions answered by the results of a statistical survey carried out during the 1967 fiscal year by the Computer Sciences Project of the Southern Regional Education Board with the support of the National Science Foundation. Fiscal year 1965 was used as the base year for actual expenditures and sources of funds and fiscal year 1969 was used for projections by the institutions.

A stratified random sample of approximately 700 of the 2200 institutions of higher education was employed to obtain estimates for the entire population. (See Appendix A for details of the sampling design.)

B. DISCUSSION: ALL INSTITUTIONS

1. Total Expenditures

103 million (\$) was spent on computer equipment and its operation for research and instructional purposes by the nation's colleges and universities



Digital Computer Needs in Universities and Colleges (Rosser Report)
National Academy of Sciences, National Research Council, Washington, D. C., 1966, 176 p.

during fiscal year 1965. An additional 41 million (\$) was contributed by the computer manufacturers in the form of educational allowances on purchases and rentals, gifts of equipment and other assistance. For the fiscal year 1969 the institutions expect to spend 276 million (\$) for the same purposes. The manufacturers will contribute an additional amount which is not likely to be too different from the 41 million of 1965 because of the recent lowering of educational discounts. During FY 65, 30 million (\$) was spent on salaries for approximately 5000 staff members at all levels with an expected increase to 69 million (\$) for FY 69 on twice as many staff. Nearly 50 million (\$), or almost one-half of the total expenditures, was spent on computers and peripheral equipment in the form of purchases, maintenance, and rentals. To this should be added the more than 40 million (\$) contributed by the manufacturers which brings the total value to 90 million (\$) for computer equipment used by the higher institutions for research and instruction during FY 65. For FY 69 the total value of hardware is estimated to be approximately 180 million (\$) with the manufacturers contributions remaining at about the 40 million (\$) level (This is a calculated guess, not a statistical estimation.). Total capital expenditures, i.e., costs of purchases of equipment, (including computer purchases) buildings, and furniture, are expected to increase from around 25 million (\$) in FY 65 to about 70 million in FY 69.

These items along with further details are presented in tables 1, 2, and 3. (The population estimates have been superimposed on an exact copy of the corresponding part of the questionnaire for the readers' convenience.)

2. Sources of Funds

Of the 103 million (\$) expended by the institutions in FY 65 over 43 million (\$) (40%) came from Federal government agencies in the form of contracts and grants. Nearly 25 million (\$) of these Federal funds were designated "primarily for computer activities." General institutional funds contributed 51 million (\$) (47%). For FY 69 the institutions are expecting 109 million (\$) (39%) of the 276 million (\$) total to come from Federal sources and to increase "their own" expenditures to 142 million (\$) (51%) (see table 4.).

Of the 25 million (\$) in Federal funds which were labeled "primarily for computer activities" over 13 million (\$) was designated for rental or purchase of equipment and buildings; 7 million was spent for their operation; 3 million was used to pay for computer time for research, development, and graduate instruction; less than $\frac{1}{2}$ million was used to pay for computer time for undergraduate instruction; and nearly $1\frac{1}{2}$ million for Computer Science Activities. For such purposes the schools are expecting a two to four-fold increase in assistance from federal and non-federal sources for FY 69. The total is estimated to go from 32 million in FY 65 to 86 million (see table 5) in FY 69. (These figures are obtained by summing across rows C and D.)



This figure differs from that shown in table 4 since a few institutions reported on FY 66 because records "were not available" for FY 65.

Item III.

Current Expenditures for Digital Computer Activities by Cost Items and Number of Personnel
All Institutions
SAMPLE SIZE 669 POP. STZE 2219

Cost Item
(1968-9) expenditures for
to house computer
or (2)
Total
All other (e.g., keypunch and other operators, clerical, technicians)
of off-campus computing service
lies)
administrative and
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↓
All other (keypunch and other operators, clerical, technicians, etc.)
Total

Item IV.

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Table 2 (from page VI-A-39)
Capital Expenditures for Digital Computer Activities
All Institutions
SAMPLE SIZE 669 POP. SIZE 2219

		Item		
Year	Computers and Peripheral Equipment	Buildings to House Computer Activit s	Furniture, Fixtures, and other Equipment	Tota1
1964-5	18,847,000.00	4,287,000.00	1,352,000.00	24,494,000.00
1965-6 projection	17,449,000.00	8,238,000.00	1,305,000.00	27,004.000.00
1966-7 projection	27,800,000.00	14,921,000.00	2,132,000.00	77, 864, 000.00
1967-8 projection	21,179,000.00	26,603,000.00	2,630,000.00	50,422,000.00
1968-9 projection	43,896,000.00	21,606,000.00	3,957,000.00	69,469,000.00

Additional Institutional and Manufacturers' Contributions Table 3 (from page VI-B-38) All Institutions

POP. SIZE 2219

SAMPLE SIZE 669

A. Adequacy of charges as a means of support for cponsored research and development projects

- .. Did money received from sponsored R&D projects for computer usage equal the amount actually used in the case of
- a. R&D projects sponsored by the Federal Government
- b. R&D projects sponsored by non-Federal agencies (excluding institution's own funds)
- If "no" in 1 (a) above, estimate the institution's own funds that were used to defray the costs of furnishing additional computing services to R&D projects sponsored by Faderal agencies.
- If "no" to 1 (b) above, estimate the institution's own funds that were used to defray the costs of furnishing additional computing services to R&D projects sponsored by non-Federal agencies.

Yes 1045 No

6,314,000.00

2,135,000.00

- B. Equipment manufacturers' contribution
- Estimated contributions toward purchase and/or rental of equipment made available from manufacturers in the form of discounts, allowances, etc., 1964-5.

25,021,000.00	16,386,000.00	41,411,000.00
Current Expenditures	Capital Expenditures	Total

Table 4 (from page VI-A-39)

Current and Capital Expenditures for Digital Computer Activities,*

by Source of Funds for Reporting Period
All Institutions

SAMPLE SIZE 569 POP. SIZE 2219

Item II.

	Source of Funds	Current expenditures (1)	<pre>Capital** expenditures (2)</pre>	Total Col. (1)+(2) = (3)	Projected 1968-9 Total
A.	Federal Government:				
1	1. Contracts and grants primarily for computer activities ***	17,263,000.00	7,385,000.00	24,651,000.00	62,624,000.00
	2. Other contracts and grants	15,452,000.00	3,068,000.00	18,523,000.00	46,237,000.00
B.	Institution's own funds	38,793,000.00	11,919,000.00	50,720,000.00	142,105,000.00
ပံ	Other sources (gifts, contracts, and grants from industry, State and local governments, etc.)	7,022,000.00	5,999,000.00	13,023,000.00	25,135,000.00
ė.	Totals	78,544,000.00	28, 382,000.00	106,935,000.00	276,119,000.00

^{*} Activities includes everything except the use of the computers for the institution's own administrative affairs.

^{**} Includes purchases of computer and peripheral equipment.

^{***} Total in column (3) should equal the total of all entries in Item V-A.

7

Sources of Funds Equipment or Buildings R&D	Computer	Time for Undergrad.	Computer
Sources of Funds Rental or Operating R&D Purchase Cost Cost Inst (1) (2) (2) Sams of all other Federal Grants and Contracts (individual rates of less than \$50,000 per year) Non-Federal Grants and Contracts: 1. Annual Rates Greater than \$50,000 b. ,000.00 ,000.00 c. ,000.00 ,000		Undergrad.	Science
2. Sums of all other Federal Grant's and Contracts (individual rates of less than \$50,000 per year) Non-Federal Grants and Contracts: 1. Annual Rates Greater than \$50,000 a. b. Purchase Cost (1) (2) (2) (2) (2) (2) (2) (2) (3) (4) (1) (1) (2) (2) (3) (4) (1) (1) (1) (2) (1) (1) (1) (2) (1) (2) (3) (4) (4) (5) (4) (5) (6) (6) (7) (6) (7) (7) (7) (8) (8) (9) (9) (9) (9) (9) (9) (9) (9) (9) (9	R&D		
2. Sums of all other Federal Grant's and Contracts (individual rates of less than \$50,000 per year) ** Total Federal I3,369,000.00 Non-Federal Grants and Contracts: 1. Annual Rates Greater than \$50,000 identify) a. c. c. c. c. dividual tates of less hours of hours o	<u> </u>	Instruction (4)	Activities* (5)
(individual rates of less than \$50,000 per year) ** Total Federal 13,369,000.00 ,000.00 Non-Federal Grants and Contracts: 1. Annual Rates Greater than \$50,000 ,000.00 (identify) a. ,000.00 b. ,000.00 ,000.00 c. ,000.00			
Non-Federal Grants and Contracts: Annual Rates Greater than \$50,000 13,369,000.00 6,912,000.00 Annual Rates Greater than \$50,000 ,000.00 a		,000,00	00"000"
Non-Federal Grants and Contracts: 1. Annual Rates Greater than \$50,000 (identify) a. ,000.00 b. ,000.00 c. ,000.00		413,000.00	1,447,000.00
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C. Total of A and B, 1964-5 16,759,000.00 8,033,000.00 4,254,000.00		918,000.00	2,175,000.00
D. Total Projected, 1968-9 #0,582,000.00 20,084,000.00 14,285,000.00	14,285,000.00	3,657,000.00	7,555,000.00

Expenditures of runds intended by the funding Agency to be Used

Primarily for the Support of Computer Equipment, Buildings, and Activities

SAMPLE SIZE 669 POP. SIZE 2219 All Institutions

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*Computer Science Activities: Includes institutes, academic programs support, fellowships, etc. **Includes Federal Grants and Contracts in excess of \$50,000 per year from previous page of questionnaire.

3. Number of institutions with computers and number of computers in the institutions

An estimated 32% or 700, of the 2200 institutions had 1000 computers by January, 1967. Estimates for 1966-1970 are presented in table 6. Detail estimates by strata of the number of institutions with computers as of January, 1967 are given in Appendix B, Table 1, and estimates of the number of computers installed, on order, and to be placed are presented in Table 2 of Appendix B.

TABLE 6

Date	No. of Schools with Computers for Research and Instruction	No. of Computers* in Schools for Research and Instruction
January 1966	600	900
January 1967	700	1,000
January 1968	800	1,100
January 1969	900	1,200
January 1970	1,000	1,300

Table 7 gives the estimated frequencies of occurrence of various computer systems reported in the survey. Of the estimated 858 computers installed as of June 30, 1965, over half (442) were leased, 291 were purchased, and the remainder were mixed, i.e., some units purchased, others leased. An additional 518 computer systems were estimated to have been on order by Fall, 1966, and were to be replacing an estimated 236 installed systems. The models are listed in order of frequency of installation (as of approximately June 30, 1965). No further ordering was attempted for equal frequencies. (Some of the abbreviations that are not immediately recognizable are MCD-McDonnell Automation Center, COR-Cornell, TUC-Triangle Universities Computer Center, WDP-Western Data Processing Center, TSH-Time-sharing, FS-Florida State University, REPL-To be replaced, ON ORDER-Total on order systems, 65-No. of on order systems delivered during 7/1/65 - 12/31/65, 66-No. of on order systems to be delivered during calendar year 1966, etc.)

The average number of hours for research and instruction usage per month for FY 65 is also given in Table 7 for each make and model of computer that was installed. (As a guideline, 130-140 hours usage per shift (176 hours) per month is considered good for batched-processing systems, which most of these are.)



Includes terminals from off-campus computers.

CONTRACT NSF 64-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

Table 7. (from page IV-34-37) TYPE X LEVEL X TYPE X

C465

V-34-37 POP. SIZE SIZE COMBINED SAMPLE

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1964-65 COMPUTER SURVEY -- SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

Table 7 cont'd TYPE X LEVEL X CTL X

2219

CONTRACT NSF C465

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Table 7 cont'd

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one-third of the costs of the Triangle Universities Computation Center, North Carolina. The TUCC installation itself is not otherwise included in the survey.

e probably similar systems. **These ar

4. Degree Programs in Computer Science and Related Areas

On the basis of responses to Item I-B of the questionnaire an estimated 226 degree programs in computer science and related areas were being offered at least by fall 1966 and an additional 331 were planned for implementation during the "next three years." Programs specifically designated as Computer Science accounted for 18% (40) of the going programs, 55% (182) of the planned programs, and 40% (223) of the total number (557) of going and planned programs. Business Data Processing appeared second most frequently making up another 40% (93) of the going programs, 26% (85) of the planned programs and 32% (178) of the total number. Appendix C presents the estimated numbers by name of program, degree level, and status (i.e., going or planned). Eighteen different names were used to classify the responses. In a few instances the classification was not exact. This was particularly true of late responses received in early 1967 (i.e., too late to add new categories).

The estimates for the numbers of programs in each of Computer Science, Business Data Processing, Information Science, Computer Science Options in Mathematics, and all others are presented in Table 8 on the portion of the questionnaire which was used to collect the sample data.



Table 8 (from page V-28)

Institutions SAMPLE STZE 669

What degree programs did your institution offer in 1964-65, if any, in Computer Science, Information Science, Data Processing, etc.? Computer Science Instruction Programs: (1) What degree programs did your inst

			Degr	Degrees (check appropriate ones)	propriate o	nes)
	Name of Program	Total	Assoc.	Bach.	Masters	Doctorate
	a. Computer Science	40	0	11	17	टा
	b. Business Data Processing	93	83	9	m	
	c. Information Science	18	0	2	12	4
	d. Option in Mathematics	장	0	10	ω	9
6	(2) What degree programs does your institution plan to offer in the next three years, if any, in Computer	51 tution plan	0 to offer in (15 the next three	21 se vears, if	anv. in Computer

Science, Information Science, Data Processing, etc.?

		Name of Program	 	Associ	Rock	Moctore	l Doctorate
		-0	10001			יומטרכיים	חחרותות
	a I	a. Compater Science	183	17	81	59	56
	٩.	Business Data Processing	85	74	6	F	T
	ບໍ	Information Science	16	O	م	ſſ	σ
	Ġ.	Option in Mathematics	13	Т	7	4	
3	Est	(3) Estimate and project the number of studer	34 udents being	13 trained to	34 13 8 7 6 not being trained to use computers at wour institution.	7 s at vôur 1	6 nstitution

aduate	1968-9	18,807	350,168
Undergraduate	1964-5	4,338	119,092
uate	1968–9	5,318	80,793
Graduate	1964-5	1,314	28,800

と一ついてエ	18,807	350,168
C_±0C∓	4,338	119,092
V-00/T	5,318	80,793
0-1001	1,314	28,800

Other majors (with at least some skill

Computer Science majors

ri

.

in using one programming language)

5. Numbers of "Computer Science" Majors and Numbers of Students Being Trained to Use Computers

Nearly 120,000 undergraduates and 29,000 graduate students received some computer training during 1964-65. In addition approximately 4,000 undergraduates and 1,300 graduate majors in "computer science" were estimated to have been enrolled in 1964-65.

The numbers of students to be trained "in at least one programming language" for 1968-69 is estimated to increase nearly three-fold or approximately 81,000 graduates and 350,000 undergraduates.

For the year 1968-69 there is to be an estimated 19,000 undergraduate majors and over 5,000 graduate majors. This is an estimated four-fold increase and is dependent to a large extent upon the schools being able to bring the planned programs into being as scheduled.

These figures are also presented in Table 8 on the part of the questionnaire used to collect the sample data.

Appendix D relates the number of students being given computer instruction to the total enrollment of the three broad types of institutions given in (2), namely, universities (strata 114 and 214 only) other four-year institutions, and two-year institutions. The institutions are also grouped by type of control, public and private. The computations given in Appendix D indicate that there are computers available in institutions enrolling 60% of all students in higher education.

6. Distribution of usage as percentage of cost

Because of the great diversity of missions of the institutions in the population it is difficult to get meaningful estimates on percentage of use by category over all institutions. Better estimates can be obtained for individual strata and certain groups of strata. The responses to Item VII of the questionnaire were grouped into classes as follows for each cell of the questionnaire over all institutions in each stratum. The classes used were:

Class Limits

76-100

51-75

26-50

01-25

No response -00

The instrument and its instructions did not request that a clear distinction be made among a no response, not applicable and zero percentage. Therefore, the median percentage based upon the estimated population frequencies, excluding the no response -00 category, appears to be the best estimate for the percentage of usage for each cell. These estimates are presented in Table 9.

The term computer science in quotes is used to cover all majors in any of the areas reported including options in math, electrical engineering, etc.



Table 9

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(Median percentage estimated for all Institutions applicable excluding zeros and no-responses) All Institutions Utilization of Digital Computers for Research, Development and Education Item VII.

			Distribution	on as percentage	tage of cost	04 +0+01		5
	Description	ļ		(Total	11 C	= 100%)	uctitaarion	
	rurpose	Engineer-	Physical	Life	Social	Computer		
		ing (1)	Sciences (2)	Sciences (3)	Sciences	Sciences	Other	Total
						(5)	(0)	
(1)	R&D and Graduate	17 ^a	18	15	12	14	7 †	
	() Est. No. Institutions	(150)	(228)	(157)	(192)	(112)	(154)	(566)
(2)	Undergraduate Instruction	19	18	13	7,7	38	18	777
		(234)	(280)	(132)	(176)	(566)	(231)	(415)
(3)	Computer Center (e.g., R&D in Software not included elsewhere)	A State						13 (199)
(4)	Library Sciences, Information Retrieval Systems (e.g., R&D in IRS not							17 (89)
	Incidded eisewhere)							
(5)	Extra-Institutional				, , , , , , , , , , , , , , , , , , ,			14 (124)
(9)	Total (1) through (5)	29 (247)	25 (336)	15 (216)	14 (253)	13 (288)	19 (2 <i>9</i> 7)	100 (549)
(2)	Total (6) projected to 1968-9	23 (282)	22 (414)	14 (318)	14 (332)	26	29 (353)	86
					/-001	10201	(5,5)	~(Joo)

^aInterpretation: An estimated 150 institutions use the computer for R&D and Graduate Instruction in Engineering. these institutions the cost of this usage amounts to less than 17% of the cost of the total usage. ^bIn B-3 an estimate of 700 institutions with computers was given, therefore, some did not make projections and still more did not respond or had no usage to report for FY65.

C. DISCUSSION: DOCTORAL GRANTING INSTITUTIONS

1. Expenditures

Current and capital expenditures at the doctoral granting institutions accounted for 80% or 82 million of the 103 million total for FY65 and expected to be 78% or 216 million of the 276 million total estimated for FY69. Over 32 million, or again 80%, of the 41 million manufacturers' contributions for FY65 went to these institutions.

Approximately 25 million was spent on salaries for 3900 staff members in FY65 with an expected expenditure of 55 million for 7300 personnel during FY69.

44 million was used to pay for computer rentals, purchases, and maintenance in FY65 and this is expected to reach 121 million during FY69. To these figures we should add approximately 32 million in the form of manufacturer's contributions which bring the total costs of computers to 76 million for FY65 and 153 million for FY69.

Total capital expenditures for equipment (including computer purchases), building and furniture are expected to go from 17 million in FY65 to 50 million in FY69.

The above estimates and others are given in tables 10, 11, and 12.

2. Sources of Funds

One half of the 82 million expended by the doctoral granting institutions during FY65 for computer services to research and instruction came from Federal agencies and 47%, or 101 million, is expected from federal sources during FY69. The institutions themselves provided 35 million in FY65 and estimate that they can provide 95 million for FY69.

Of the 41 million provided by the federal government during FY65, over 22 million was "primarily for computer activities" and 56 million is expected during FY69 for the same purposes. The remaining 18 million from Federal sources in FY65 came from computer services to research contracts and grants. From the same sources these institutions estimate that 45 million will be forthcoming for FY69.

12 million of the estimated funds earmarked "primarily for computer activities" by Federal agencies was spent for rental or purchases of equipment or buildings, under 7 million for their operating costs, 3 million for computer time for R and D and graduate instruction, $\frac{1}{4}$ million for computer time for undergraduate instruction, and nearly $1\frac{1}{2}$ million for computer science activities. For these same items there is to be an estimated increase from two to six-fold by FY69. The highest percentage increase is expected to be for computer time for undergraduate instruction, over 600%. These estimates are presented in tables 13 and 14.



Table 10 (from page VI-A-38)
Current Expenditures for Digital Computer Activities
by Cost Items and Number of Personnel

Institutions	12E 260
ρĹ	227 POP. STER 260
Doctoral	SAMPLE STZE 227 P

		SAMPI, STZE STZE STAMPI, STZE STZE STZE SAMPI, STZE SAMPI, STZE STZE STZE SAMPI, STZE STZE SAMPI, STZE STZE STZE STZE STZE STZE STZE STZE	2		
Ì		Cost Item	1964-5	1968-9 Projection	1
Α.	Cu di	Current (1964-5) and Projected (1968-9) expenditures for digital computer activities			
	- i	Equipment rentals	22,632,000.00	73,634,000.00	
	2.	Rental or costs for building space to house computer activities	1,414,000.00	3,053,000.00	•
	m,	Maintenance costs not already included in (1) or (2)	2,136,000.00	3,793,000.00	
	4.	Salaries and wages of personnelTotal	24,603,000,00	54,719,000,00	. 1
		a. Systems and utility programmers	8,577,000.00	21,749,000.00	
		b. Administrative and other professional	7,734,000.00	16,971,000.00	
	٠	c. All other (e.g., keypunch and other operators, clerical, technicians)	8,286,000.00	15,995,000.00	
	5.	Costs for purchase of off-campus computing service	561,000.00	560,000.00	_
	••	Other direct costs (including materials and supplies)	6,166,000.00	12,417,000.00	
	7.	Indirect costs (general institutional administrative and general expense allocation)	7,563,000.00	17,853,000.00	
Total	al		65,089,000.00	166,044,000.00	
m ·	Plea for	Please indicate full time equivalent number employed for items 4 (a), 4 (b), and 4 (c) above:	Number of 1964-5	Personnel 1968-9 Projection	
	1	Systems and utility programmers	1,170	2,533	
	2.	Administrative and other professional	781	1,466	
	3.	All other (keypunch and other operators, clerical, technicians, etc.)	1,941 3,898	3,292	18
					3

Item III.

Table 11 (from page VI-A-38)

Capital Expenditures for Digital Computer Activities

Doctoral Granting Institutions

SAMPIE SIZE 227 POP. SIZE 269

		Item		
Year	Computers and Peripheral Equipment	Buildings to House Computer Activities	Furniture, Fixtures, and other Equipment	Total
1964–5	12,752,000.00	3,147,000.00	769,000.00	16,673,000.00
1965-6 projection	14,893,000.00	8,016,000.00	862,000.00	23,776,000.00
1966-7 projection	22,845,000.00	13,194,000.00	1,464,000.00	37,507,000.00
1967-8 projection	15,943,000.00	25,827,000.00	2,048,000.00	43,823,000.00
1968-9 projection	28,797,000.00	17,789,000.00	3,027,000.00	00.000,616,6 ⁴



Item IV.

Table 12 (from page VI-B-37)

Additional Institutional and Manufacturers' Contributions

Doctoral Granting Institutions

SAMPLE SIZE 227 POP. SIZE 269

Item VI

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- Adequacy of charges as a means of support for sponsored research and development projects
- Did money received from sponsored R&D projects for computer usage equal the amount actually used in the case of
- a. R&D projects sponsored by the Federal Government
- b. R&D projects sponsored by non-Federal agencies (excluding institution's own funds)
- If "no" in 1 (a) above, estimate the institution's own funds that were used to defray the costs of furnishing additional computing services to R&D projects sponsored by Federal agencies.
- If "no" to 1 (b) above, estimate the institution's own funds that were used to defray the costs of furnishing additional computing services to R&D projects sponsored by non-Federal agencies.

8 1	No	
102	71	
Yes	Yes	

6,050,000.00

2,109,000.00

- B. Equipment manufacturers' contribution
- 1. Estimated contributions toward purchase and/or rental of equipment made available from manufacturers in the form of discounts, allowances, etc., 1964-5.

Current Expenditures	22,313,000.00
Capital Expenditures	9,899,000.00
Total	32,214,000.00

Table 13 (from page VI-A-38)

Current and Capital Expenditures for Digital Computer Activities,*

by Scurce of Funds for Reporting Period

Doctoral Granting Institutions

SAMPLE STOP 207

	SAM	SAMPLE SIZE 227	FOF. SIZE 209		
	Source of Funds	Current expenditures	Capital** expenditures	Total Col. (1)+(2) = (3)	Projected 1968-9 Total
¥	Federal Government:				
	1. Contracts and grants primarily for computer activities ***	16,420,000.00	6,025,000.00	22,446,000.00	56,306,000.00
	2. Other contracts and grants	15,271,000.00	3,068,000.00	18,342,000.00	00°000°216°ηη
e m	Institution's own funds	27,529,000.00	7,733,000.00	35,267,000.00	95,177,000.00
ပ်	Other sources (gifts, contracts, and grants from industry, State and local governments, etc.)	5,833,000.00	3,900,000.00	9,734,000.00	19,209,000.00
ė	Totals	65,062,000.00	20,732,000.00	85,796,000.00	215,613,000.00
١					

everything except the use of the computers for the institution's own administrative * Activities include affairs.



^{**} Includes purchases of computer and peripheral equipment.

^{***} Total in column (3) should equal the total of all entries in Item V-A.

Table 14 (from page VI-B-37)
Expenditures of Funds Intended by the Funding Agency to be Used
Primarily for the Support of Computer Equipment, Buildings, and Activities

SAMPLE SIZE 227 POP. SIZE 269

	1_	Computer			
	ent	or Buildings	Computer	Time for	Computer
Sources of Funds	Rental or	Operating	R&D & Grad.	Undergrad.	Science
	Purchase Cost		Instruction (3)	Instruction (4)	Activities*
2. Sums of all other Federal Grants and Contracts				,	
(individual rates of less than \$50,000 per year)	00.000,	,000.00	00.000,	00.000.	00.000,
**Total Federal	12,056,000.00	6,694,000.00	3.012.000.00	251.000.00	1.405.000.00
<pre>B. Non-Federal Grants and Contracts:</pre>					
9	000000	,000.00	00.000,	00.000,	,000.00
ъ.	,000.00	,000.00	000.000	,000,00	,000.00
C.	,000.00	000.000	00°000 °	,000.00	,000.00
d.	00.000,	00.000,	,000.00	,000.00	,000.00
2. Other non-Federal Grants and Contracts	,000.00	00.000,	00.000	000.000	00.000.
Total Non-Federal	2.457.000.00	896.000.00	1.070.000.00	223.000.00	00.000.469
C. Total of A and B, 1964-5	14,515,000.00	7,591,000.00	4,085,000.00	474,000.00	2,102,000.00
D. Total Projected, 1968-9	34,578,000.00 19,535,000.00 13,758,000.00	9,535,000.00	1	3,084,000.00	6,311,000.00

*Computer Science Activities: Includes institutes, academic programs support, fellowships, etc. **Includes Federal Grants and Contracts in excess of \$50,000 per year from previous page of questionnaire.



Item V.

3. Number of Institutions with Computers and Number of Computers in the Institutions

Table 15 gives the estimates for the number of institutions with computers, number of computers installed as of June 30, 1965, the number of computers on order as of around December, 1966 and the number of installed computers to be replaced by the on order systems for each of the four classes of institutions to be discussed. The same estimates are given in Appendix B, Table 1, by individual strata.

If the reader is interested in seeing the estimated frequencies for the individual makes and models of computers he is referred to section IV.

4. Degree Programs in Computer Sciences and Related Areas by Type of Program

The doctoral granting institutions offered 34 of the 40 going degree programs in computer science and accounted for 122 of the 165 planned programs at and above the bachelors level. 15 of the 18 going programs and 15 of the 16 planned programs in Information Science were accounted for by this group of institutions. Only 9 of the 93 going curricula and 10 of the 85 planned programs for Business Data Processing are estimated to be from this group. Nearly all of the Computer Science options in Mathematics (32 out of 37) and Electrical Engineering (22 out of 23) appeared in the estimates for the group of doctoral granting institutions. Table 16 presents this data in the questionnaire format.

5. Numbers of "Computer Science Majors" and Students Being Trained to Use Computers

From Table 16 and Table 8 we find that the doctoral granting institutions provided some computer education to 83 of the 120 thousand (70%) undergraduates and 25 of the 29 thousand (87%) graduate students in FY65 who received some computer education. For FY69 the corresponding figures are estimated to be 256 out of 350 thousand (73%) and 69 out of 81 thousand (86%). For majors only 800 of the 4300 (19%) undergraduates, and 1200 of the 1300 graduate students (92%) were enrolled in the doctoral granting institutions during FY65. For FY69 the estimates for "Computer Science" majors enrolled are 6000 of the 19000 (32%) undergraduates and 4700 of the 5300 graduates (87%).

6. Median Percentages of Usage by Area and Level

Table 17 contains the estimates of the median percentage of usage by those institutions for which the category is applicable. The estimate of the number of institutions which have each type of use is also given in parentheses. Several institutions did not report on this item because their usage records did not conform. By using the medians calculated here we are assuming that the distribution in each cell for those not responding is no different than that of those who did. Comparisons from group to group, cell by cell have a straightforward interpretation. The reader should be cautious in his interpretation of cell against cell within a group of institutions.



Table 15 Number of Institutions with Computers and Number of Computers Installed, On Order, and to be Replaced

Type of Institution by Highest Degree Offered	No. of Institutions in Population	Estimated No. of Institutions With Computers	Estimated No. Computers Installed June 30, 1965	Estimated No. Computers On Order (circa Dec. '66)	Estimated No. Computers to be Replaced by on Order Computers
Doctorate (Group XX4)	569	215	517	230	165
Masters and/or Second Professional Degrees (Group XX3)	991	21.7	176	125	64
Bachelors and/or First Professional Degrees (Group XX2)	1 62	124	8 2	23	0
Two to Four Years Beyond 12th Grade (Group XX1)	889	150	85	110	22
Other (Group XX5)	5	1	ત	0	0
Total (Group XXX)	2219	707	858	518	236



Table 16 (from page V-27) Doctoral Granting Institutions POP. SIZE 269 SAMPLE SIZE 227

Item I.

B. Computer Science Instruction Programs:

What degree programs did your institution offer in 1964-65, if any, in Computer Science, Information Science, Data Processing, etc.? (1)

			Degr	Degrees (check appropriate ones)	ppropriate o	nes)
	Name of Program	Total	Assoc.	Bach.	Masters	Doctorate
a.	Computer Science	45	0	8	ħΈ	12
۵.	Information Science	15	0	ઢ	6	য
រ	Business Data Processing	6	5	ય	3	1
ф.	Options in Mathematics	80	0	9	8	9
What	What decree programs does vour institution plan to offer in the next three years, if any, in Computer	47	0 Fo offer in	11 the next thr	21 pe vears, if	15 anv in Computer

What degree programs does your institution pram to or Science, Information Science, Data Processing, etc.? (2)

		Name of Program	Total	Assoc.	Bach.	Masters	Doctorate	
	e o	Computer Sciences	122	4	† †	84	56	
	ъ.	Information Science	15	0	1	5	6	
	ပံ	Business Data Processing	10	t	ተ	1	1	
	d.	Options in Mathematics	12	1	9	र्ग	Ţ	
		All Other	18	ય	4	9	9	
(DO T	1) Bottmote and amotion the member of etudoute being twenty to not committee of mine institution	40.00	twoins to			notitution	

Estimate and project the number of students being trained to use computers at your institution. (3)

aduate	1968-9	5;993	256,397
Undergraduate	19645	799	85,019
iate	1968–9	4,651	25 [†] ,69
Graduate	1964-5	1,213	25, 224

256,39	83,019	69,432	25, 224
5,99	662	4,651	1,213
1968-	1964-5	1968-9	1964-5

Other majors (with at least some skill in using one programming language)

Computer Science majors

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Item Vii.

Median Percentage Estimated for Doctoral Granting Institutions Applicable, Excluding Zeros and No-responses Table 17
Doctoral Granting Institutions
SAMPLE SIZE 227
Utilization of Digital Computers for Research, Development and Education

	Ğ	ŗ	+ +	ion as percentage (Total annu	itage of cost annual cost	of total = 100%)	utilization	
ļ	rurpose	Engineer- ing (1)	Physical Sciences (2)	Life Sciences (3)	Social Sciences (4)	Computer Sciences (5)	Other (6)	Total
(1)	R&D and Graduate Instruction () Estimated No. of	16 ^a (124)	19 (154)	15 (135)	13 (138)	13 (69)	14 (106)	64 (185)
(2)		15 (118)	13 (117)	13 (61)	13 (76)	14 (78)	15 (68)	23 (170)
(3)	Computer Center (e.g., R&D in Software not included elsewhere)	· · · · · ·						14 (113)
(4)	Library Sciences, Information Retrieval Systems (e.g., R&D in IRS not included elsewhere)							13 (41)
(5)	Extra-Institutional		,					13 (83)
(9)	Total (1) through (5)	29 (130)	24 (160)	15 (143)	14 (140)	15 (96)	15 (120)	100 (192)
3	Total (6) projected to 1968-9	23 (133)	22 (164)	15 (159)	14 (148)	15 (143)	14 (124)	86 (191)

aSee footnote on Table 9 for interpretation

D. DISCUSSION: INSTITUTIONS OFFERING MASTERS AND/OR SECOND PROFESSIONAL DEGREES

1. Expenditures

There are 466 institutions which offer the master's degree or Second Professional degree as their highest level of offering (Group XX3). These schools spent an estimated 9 million for research and instructional uses of computers in FY65 and expect to have 38 million available for FY69. The ratio of capital to current expenditures for FY65 was 1 to 5 but is expected to increase to 1 to 2 for FY69.

An estimated $2\frac{1}{2}$ million was paid to 500 staff members of the computer facilities in F165 and nearly $8\frac{1}{2}$ million is expected to be required for 1300 employees in FY69. The main reason for the apparent unbalance between the increases in funds and personnel is due to the fact that a four-fold increase is expected in the systems and utility programmer category while only a $2\frac{1}{2}$ times increase is anticipated in the other categories. These estimates and others are given in Tables 18, 19 and 20.

2. Sources of Funds

640 thousand of the 9 million expended by the masters' institutions for research and instructional use of computers come from Federal sources in FY65. Five times this amount, or 3.3 million, is expected for FY69. The institutions themselves paid 7 of the 9 million in FY65 and anticipate bearing over 30 million of the estimated 38 million needed for FY69. In addition to the 9 million total expended in FY65 the manufacturers' accounted for an estimated 3.5 million in rental and purchase discounts and other assistance.

Major increases for FY69 over FY65 in outside support is expected to come for rental or purchase of equipment and buildings (over 2 million) and for computer science activities (over 1 million). These and other estimates are obtained from Tables 21 and 22.

3. Number of Institutions with Computers and Number of Computers in Institutions

An estimated 217 of the 466 institutions offering the master's or second professional degree as their highest offering had at least one computer installed or on order as of the fall of 1966. For these institutions an estimated 176 computers were installed as of June 30, 1965 and 125 were on order replacing 49 of the installed systems. (see Table 15)

4. Degree Programs in Computer Science and Related Areas

Table 23 shows the estimates of the numbers of degree programs in Computer Science going and planned in the masters' institutions. An additional 71 programs are planned and 16 were going in FY65. Over two-thirds of the planned programs are in Computer Science with 37 at the bachelor's level and 11 at the master's.



VI-A-37)	
page	
(from	
Table 18	

Item III.

ERIC Full Text Provided by ERIC

Current Expenditures for Digital Computer Activities
by Cost Items and Number of Personnel
Institutions Offering Masters and/or Second Professional Degrees

	SAMPT. STZE 158 POP. STZE 466		
	Cost Item	1964-5	1968-9 Projection
A.	Current (1964-5) and Projected (1968-9) expenditures for digital computer activities		
	1. Equipment rentals	3,094,000.00	10,433,000.00
	2. Rental or costs for building space to house computer activities	47,000.00	1,343,000.00
	3. Maintenance costs not already included in (1) or (2)	124,000,00	254,000.00
	4. Salaries and wages of personnelTotal	2,652,000.00	8,374,000.00
	a. Systems and utility programmers	574,000.00	2,819,000.00
	b. Administrative and other professional	1,059,000.00	2,933,000.00
	c. All other (e.g., keypunch and other operators, clerical, technicians)	1,012,000.00	2,615,000.00
	5. Costs for purchase of off-campus computing service	60,000,00	117,000.00
	6. Other direct costs (including materials and supplies)	393,000.00	1,120,000.00
	7. Indirect costs (general institutional administrative and general expense allocation)	1,185,000.00	3,847,000.00
Total	al	7,573,000.00	25,507,000.00
ъ.	Please indicate full time equivalent number employed for items 4 (a), 4 (b), and 4 (c) above:	Number of 1964-5	Personnel 1968-9 Projection
	1. Systems and utility programmers	93	.358
	2. Administrative and other professional	127	305
	 All other (keypunch and other operators, clerical, technicians, etc.) Total	282 508	646

Item IV.

Table 19 (from page VI-A-37)

Capital Expenditures for Digital Computer Activities

Institutions Offering the Masters and/or Second Professional Degrees

SAMPLE SIZE 158 POP. SIZE 466

		Item		
Year	Computers and Peripheral Equipment	Buildings to House Computer Activities	Furniture, Fixtures, and other Equipment	Total
1964-5	806,000.00	605,000.00	136,000.00	1,548,000.00
1965-6 projection	745,000.00	126,000.00	132,000.00	1,006,000.00
1966-7 projection	2,237,000.00	1,445,000.00	346,000.00	4,032,000.00
1967-8 projection	1,604,000.00	481,000.00	265,000.00	2,354,000.00
1968-9 projection	8,432,000.00	3,501,000.00	1469,000.00	12,407,000.00

Table 20 (from page VI-B-36)

Item VI.

ERIC

Additional Institutional and Manufacturers' Contributions

Institutions Offering Masters and/or Second Professional Degrees

SAMPLE SIZE 158 POP. SIZE 466

- A. Adequacy of charges as a means of support for sponsored research and development projects
- 1. Did money received from sponsored R&D projects for computer usage equal the amount actually used in the case of
- a. R&D projects sponsored by the Federal Government
- b. R&D projects sponsored by non-Federal agencies (excluding institution's own funds)
- 2. If "no" in 1 (a) above, estimate the institution's can funds that were used to defray the costs of furnishing additional computing services to R&D projects sponsored by Federal agencies.
- 3. If "no" to 1 (b) above, estimate the institution's own funds that were used to defray the costs of furnishing additional computing services to R&D projects sponsored by non-Federal agencies.

Yes 19 No

26,000.00

107,000.00

- B. Equipment manufacturers' contribution
- 1. Estimated contributions toward purchase and/or rental of equipment made available from manufacturers in the form of discounts, allowances, etc., 1964-5.

1,888,000.00	1,637,000.00	3,527,000,00
Current Expenditures	Capital Expenditures	Total

It	Item II. Current and Capital Expenditures for Digital Computer Activities,*	spenditures for Di	itures for Digital Computer Ac	tivities,*	
	Institutions Offering Masters SAMPLE SIZE 158		and/or Second Professional Degrees POP. SIZE 466	egrees	
	Source of Funds	Cu	Capital** expenditures (2)	Total Col. (1)+(2) = (3)	Projected 1968-9 Total
A.	Federal Government:				
	1. Contracts and grants primarily for computer activities ***	357,000.00	282,000.60	640,000.00	3,321,000.00
	2. Other contracts and grants	122,000.00	,000.00	122,000.00	98 6, 000.00
m	Institution's own funds	6,486,000.00	632,000.00	7,119,000.00	30,331,000.00
ပ	Other sources (gifts, contracts, and grants from industry, State and local	00 000 039	00 000 615	00.000 [71.1	3,509,000,00

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3,509,000.00

1,171,000.00

512,000.00

659,000.00

governments, etc.)

Totals

38,154,000.00

9,059,000.00

1,428,000,00

7,526,000.00

^{*} Activities includes everything except the use of the computers for the institution's own administrative affairs.

^{**} Includes purchases of computer and peripheral equipment.

^{***} Total in column (3) should equal the total of all entries in Item V-A.

Expenditures of Funds Intended by the Funding Agency to be Used

Primarily for the Support of Computer Equipment, Buildings, and Activities
Institutions Offering Masters and/or Second Professional Degrees
SAMPLE SIZE 158
POP. SIZE 466

	770	FOF. 512.E 466	Q		
	_				
Source of Finds	lent	or Buildings	Computer	Time for	Computer
Spires of Fullus	_	Operating	R&D & Grad.	Undergrad.	Science
	Purchase Cost (1)	Cost (2)	Instruction (3)	Instruction	Activities*
				(+)	(c)
4. Sums of all other Federal Grants and Contracts					
(incividual rates of less than \$50,000 per year)	00.000,	,000.00	00.000,	00.000,	00.000,
** Total Federal	336,000.00	56,000.00	158,000.00	44.000.00	42,000,00
B. Non-Federal Grants and Contracts:1. Annual Rates Greater than \$50,000 (identify)					
	,000.00	,000.00	,000.00	,000.00	000.00
b.	,000.00	,000.00	,000,000	,000,00	000.00
٠,	,000.00	,000.00	00.000	000.000	00 000
ф.	00.000,	,000.00	000.000	000.00	00.000
Contracts	00.000	00 000	000		1
Total Non-Federal	85,000.00	38,000.00	3,000.00	00.000,	3.000.00
C. Total of A and B, 1964-5	421,000.00	94,000.00	161,000.00	44,000.00	45,000.00
D Hotel Harris 1 1000					
<pre>b. iotal Frojected, 1968-9</pre>	2,823,000.00	218,000.00	515,000.00	163,000.00	1,216,000.00
				_	

Federal Grants and Contracts in excess of \$50,000 per year from previous page of questionnaire. *Computer Science Activities: Includes institutes, academic programs support, fellowships, etc. **Includes

Item V.

Table 23 (from page V-26)

Institutions offering Master's Degree and/or second Professional Degree

Sample Size 158, Population size 466 Computer Science Instruction Programs:

What degree programs did your institution offer in 1964-65, if any, in Computer Science, Information Science, Data Processing, etc.?

	,		Degr	ees (check a	Degrees (check appropriate ones)	nes)
	Name of Program	Total	Assoc.	Bach.	Masters	Doctorate
ا ر	Computer Science	9	0	ĸ	10	
ا م	Information Science	3	0	0	3	
່	Business Data Processing	3	3	0	0	
d.	Options in Mathematics	0	0	0	0	
l	All Other	+	0	7	0	

What degree programs does your institution plan to offer in the next three years, if any, in Computer Science, Information Science, Data Processing, etc.?

	Name of Program	Total	Assoc.	Bach.	Masters	Doctorate
a	Computer Science	51	2	37	11	
þ.	Information Science	1	0	1	0	
o o	Business Data Processing	14	6	2	0	
•	Options in Mathematics	H	0	r-1	0	
	All Other	†	0	3	۲	

Estimate and project the number of students being trained to use computers at your institution. 3

aduate	1968–9	9,160	916 ' 29
Undergraduate	1964-5	115	23,552
ıate	1968–9	995	8,739
Graduate	1964-5	23	2,294

a. Computer Science majors

b. Other majors (with at least some skill in using one programming language)

5. Number of "Computer Science" Majors and Numbers of Students Being Trained to Use Computers

The number of graduate "Computer Science" majors is expected to climb from 23 in FY 65 to 566 in FY 69, and the number of undergraduate majors is to go from 511 to 3160 during the same period. Nearly 2300 other graduate students learned to program in at least one programming language during FY 65 and an estimated \$700 will do so in FY 69. The corresponding figures for undergraduates are approximately 24,000 and 64,000. (see table 23)

6. Distributions of Usage as Percentage of Costs

Estimates in Table 24 show that undergraduate instruction had a dominant role in the usage of computers at institutions which offer the master's degree as their highest offering with a median of 76%. The corresponding figure for doctoral granting institutions was 23% (see Table 17). The situation was reversed, as would be expected, for R and D and graduate instruction with the masters institutions having a median usage of 27% while the doctoral institutions had a median of 64%. The apparent decrease in emphasis on usage for Computer Science from a median of 78% in FY 65 to 37% in FY 69 can be explained away by the fact that the additional 53 institutions do not have, nor plan to have, going degree programs in computer sciences by FY 69.



Table 24

Ite	Item VII. Median Percentage Estimated for Applicable Degree, Excluding Zeros and No-responses	Utilization of Digital Computers preentage Estimated for Applicabl Excluding Zeros and No-responses	Computers f Applicable responses	for Research, e Institutions SAMPLE STZE		ucat and 166		Second Professional	
			Distributi	on as	age of connual cos	a1	utilization		
	Purpose	Engineer- ing	Physical Sciences	Life	Social	Computer	Other	10+01	
		(1)	(2)	(3)	(4)	(5)	(9)	(7)	
(1)	,	148	15	17	13	17	14	27	
	() Estimated Number of	(25)	(99)	(16)	(87)	(40)	(36)	(101)	
(2)	Unde	25 (45)	20 (102)	13 (45)	15 (71)	(69) 6 1 7	17 (74)	76 (155)	
(3)	Computer Center (e.g., R&D in Software not included elsewhere)							13 (46)	
(4)	Library Sciences, Information Retrieval Systems (e.g., R&D in IRS not included elsewhere)	*						15 (21)	
(5)	Extra-Institutional	3						16 (41)	
(9)	Total (1) through (5)	35 (46)	22 (104)	14 (47)	16 (84)	78 (63)	20 (82)	100 (161)	
3	Total (6) projected to 1968-9	22 (57)	23 (141)	13 (103)	15 (119)	37 (116)	18 (108)	86 (188)	

aSee footnote of Table 9 for interpretation



E. DISCUSSION: INSTITUTIONS OFFERING BACHELORS AND/OR FIRST PROFESSIONAL DEGREES

1. Expenditures

The 794 Institutions offering Bachelors or first professional degrees as their highest offering accounted for an estimated 2 million ($2\frac{1}{2}\%$) of the total 79 million current expenditures for FY65. For the same purposes in FY69 these same institutions are expecting to spend an stimated 5 million, or again $2\frac{1}{2}\%$ of the total (see table 25). Capital expenditures are estimated to go from $2\frac{1}{2}$ million in FY65 to nearly 3 million in FY69. For some reason, which is probably associated with manufacturers' discount policies and pending orders for third generation equipment, these institutions dropped their capital expenditures to around $\frac{1}{2}$ million for FY66 and FY67 but they are estimated to climb again to over 2 million for FY68 (see table 26).

The bachelors' degree institutions used about $2\frac{1}{2}$ million of their $4\frac{1}{2}$ million total expenditures for hardware in FY65. In addition the manufacturers' contributions totaled 3 1/3 million (see table 27). This is the only group for which the manufacturers contributed over 50% of the total hardware costs. For FY69 the total hardware costs are estimated to be nearly 5 million or almost double that of FY65. Personnel is estimated to go from 163 to 391 with salaries and wages to go from less than 1 million in FY65 to nearly 2 million in FY69.

2. Source of Funds

The Federal agencies contributed less than 10% of the total expenditures for FY65 but the institutions are expecting nearly $1\frac{1}{2}$ million or 18% from this source for FY69. The institutions provided about 73% ($3\frac{1}{2}$ million) of the total $4\frac{1}{2}$ million expenditures during FY65 and are estimated to provide 73% (nearly 6 million) of the 8 million total for FY69. Only a slight increase is expected to come from other sources (see table 28).

3. Number of Institutions With Computers and Number of Computers in the Institutions.

124 of the 794 institutions had an estimated 78 computers installed as of the end of FY65 and an additional 53 on order by the fall of 1966 with none to be replaced (see table 15). Further details by strata are given in Appendix B. An estimated 47 of the computers were purchased while only 20 were leased. This is the only group (of the four discussed here) which indicates a strong preference for purchase over lease.

4. Degree Programs in Computer Science and Related Areas

The bachelors' degree institutions had an estimated 16 of the 226 going degree programs in FY65 with only an additional 5 planned (table 30). 12 of the going programs were in data processing at the associate degree level and 4 of the planned programs are estimated to be in computer science also at the associate degree level.

Number of "Computer Science" Majors and Number of Students Being Trained to Use Computers.

The bachelors' degree institutions had 60 undergraduate "computer science" majors during FY65 and expect to have 200 for FY69. An additional 5000



Table 25 (from page VI-A-36)
Current Expenditures for Digit.1 Computer Activities
Institutions Offering Bachelors and/or First Frofessional Degrees

	.968-9 Projec	
	1964-5	
SAMPLE SIZE 142 POP. SIZE 794	Cost Item	

	SAMPLE SIZE 142 POP. SIZE	462		1
	Cost Item	1964-5	1968-9 Projection	ı
A. Cu	Current (1964-5) and Projected (1968-9) expenditures for digital computer activities			i
1.	Equipment rentals	595,000.00	1,933,000.00	
2.	Rental or costs for building space to house computer activities	73,000.00	20,000.00	
ຕໍ	Maintenance costs not already included in (1) or (2)	00*000*95	139,000.00	•
4.	Salaries and wages of personnelTotal	839,000,00	1,944,000,00	. 1
	a. Systems and utility programmers	218,000.00	466,000.00	
	b. Administrative and other professional	596,000,00	772,000.00	
	c. All other (e.g., keypunch and other operators, clerical, technicians)	322,000.00	703,000.00	
3.	Costs for purchase of off-campus computing service	00.000, 4	33,000.00	
•	Other direct costs (including materials and supplies)	156,000.00	294,000.00	
7.	Indirect costs (general institutional administrative and general expense allocation	00°000° ካቱሪ	731,000.00	ı
Total		1,984,000.00	5,105,000.00	
B. Plea for	Please indicate full time equivalent number employed for items 4 (a), 4 (b), and 4 (c) above:	Number of 1964-5	Personnel 1968-9 Projection	
i.	Systems and utility programmers	22	69	
2.	Administrative and other professional	41	96	
ຕໍ	eypunch and other operators, clerical,	96	223	. 3
	technicians, etc.)	163	391	37

Item III.

Table 26 (from page VI-A-36)

Item IV.

Capital Expenditures for Digital Computer Activities
Institutions Offering Bachelors and/or First Professional Degrees
SAMPIE SIZE 142 POP. SIZE 794

	Computers	Item	Furniture.	
and Peripheral Equipment		Buildings to House Computer Activities	Fixtures, and other Equipment	Total
2,007,000	00.	300,000,00	183,000.00	2,491,000.00
357,000.	00.	25,000.00	63,000.00	00°000°9†ff
408,000	00.	126,000.00	125,000.00	961,000.00
1,959,000	00	250,000.00	126,000.00	2,336,000.00
2,791,000	00	00.000	95,000.00	2,886,000.00



(from page VI-B-35) Table 27

Additional Institutional and Manufacturers' Contributions Institutions Offering Bachelors and/or First Professional Degrees POP. SIZE 794

Item VI.

SAMPLE SIZE 142

Adequacy of charges as a means of support for sponsored research and development projects

- Did money received from sponsored R&D projects for computer usage equal the amount actually used in the case of
- R&D projects spontored by the Federal Government a.
- R&D projects sponsored by non-Federal agencies (excluding institution's own funds) ئہ
- If "no" in 1 (a) above, estimate the institution's own funds that were used to defray the costs of furnishing additional computing services to R&D projects sponsored by Federal agencies. "no" in 1 (a) above, estimate the institution's own 7
 - If "no" to 1 (b) above, estimate the institution's own funds that were used to defray the costs of furnishing additional computing services to R&D projects sponsored by non-Federal agencies. .

No ,000.00 Yes

N₀

Yes

000.000

- Equipment manufacturers' contribution
- Estimated contributions toward purchase and/or rental of equipment made avail ble from manufacturers in the form of discounts, allowances, etc., 1964-5.

170,000.00	3,132,000.00	3,302,000.00	
Current Expenditures	Capital Expenditures	Tota1	

Table 28 (page VI-A-36)

Current and Capital Expenditures for Digital Computer Activities,* by Source of Funds for Reporting Period Institutions Offering Bachelors and/or First Professional Degree SAMPLE STZE 142

Item II

ERIC

	SAMPLE SIZE 142		POP. STZE 794		
	Source of Funds	Current expenditures	Capital** expenditures	Total Col. (1)+(2)	Projected 1968-9
		(7)	(7)	= (3)	Total
Α.	Federal Government:				
	<pre>1. Contracts and grants primarily for computer activities ***</pre>	00.000,	332,000.00	332,000.00	1,376,000.00
	2. Other contracts and grants	59,000.00	00.000,	59,000.00	86,000.00
æ	Institution's own funds	1,783,000.00	1,719,000.00	3,504,000.00	5,802,000.00
نٌ	Other sources (gifts, contracts, and grants from industry, State and local governments, etc.)	142,000.00	438,000.00	580,000.00	727,000.00
D.	Totals	1,984,000.00	2,491,000.00	4,477,000.00	7,992,000.00

* Activities includes everything except the use of the computers for the institution's own <u>administrative</u> affairs.

** Includes purchases of computer and peripheral equipment.

*** Total in column (3) should equal the total of all entries in Item V-A.

Expenditures of Funds Intended by the Funding Agency to be Used

Primarily for the Support of Computer Equipment, Buildings, and Activities
Institutions Offering Bachelors and/or First Professional Degrees

SAMPLE SIZE 142

POP. SIZE 794

		Digital Co	Computer or Buildings	Gomputer	Time for	Computer
	Sources of Funds	1 01		R&D & Grad. Instruction (3)	Undergrad. Instruction (4)	Science Activities* (5)
	2. Sums of all other Federal Grants and Contracts (individual rates of less than \$50,000 per year)	00.000,	00.000,	000.000	000.000	000.000
	** Total Federal	207,000.00				
m [*]	Non-Federal Grants and Contracts: 1. Annual Rates Greater than \$50,000 (identify)					
	а.	,000,00	,000.00	,000.00	00.000,	00.000,
	ъ.	,000.00	,000.00	0000,000	00000	000.000
	٠,	00.000,	00.000,	,000.00	00.000,	000000
	d.	000000	00.000,	00.000,	00.000,	000.000
	2. Other non-Federal Grants and Contracts Total Non-Federa	,000.00	00.000,	,000.00	,000.00	000.000
ပ	Total of A and B, 1964-5	270,000.00	00.000,	00.000,	00.000,	00.000,
D.	Total Projected, 1968-9	1,711,000.00	10,000.00	,000,00	00.000,	00.000,

Federal Grants and Contracts in excess of \$50,000 per year from previous page of questionnaire. Science Activities: Includes institutes, academic programs support, fellowships, etc. *Computer

Item V.

Institutions Offering Bachelors and/or First Professional Degrees Table 30 (from page V-25)

SAMPLE SIZE 142

POP. SIZE 794

What degree programs did your institution offer in 1964-65, if any, in Computer Science, Information Science, Data Processing, etc.? Computer Science Instruction Programs:
(1) What degree programs did your inst

			Degr	ees (check a	Degrees (check appropriate ones)	nes)
	Name of Program	Total	Assoc.	Bach.	Masters	Doctorate
ซื	a. Computer Science	0	0	0		
p.	b. Business Data Processing	12	8	7		
ີ່ວ່	c. Options in Mathematics	4	0	4		
֖֖֓֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	d. Options in Electrical Engineering	0	0	0		

What degree programs does your institution plan to offer in the next three years, if any, in Computer Science, Information Science, Data Processing, etc.?

Name of Program	Total	Assoc.	Bach.	Masters	Doctorate
a. Computer Sciences	77	0	0		
b. Business Data Processing	0	0	0		
c. Options in Wathematics	0	0	0		
d. Cotions in Electrical Engineering	1	0	1		

Estimate and project the number of students being trained to use computers at your institution. \mathfrak{S}

aduate	1968-9	200	13,267
Undergraduate	5-7961	9	5,082
ıate	1968-9		783
Graduate	1964-5	•	282

Other majors (with at least some skill

Computer Science majors

a.

۵,

in using one programming language)

students (undergraduates) received some training during FY65 and over 13,000 are expected to be given some computer education in FY69. 282 graduate students were reported to have had some computer training in FY65 and this number is expected to approach 800 for FY69. These are apparently non-degree seeking enrollees such as evening classes, special courses, etc.

6. Distribution of Usage as Percentage of Cost

As would be expected, the undergraduate instruction usage dominates the usage at the bachelors' degree institutions with a median percentage usage of 86%. The physical sciences, engineering and "computer sciences" have medians of 50, 44 and 38 percent respectively, for undergraduate instruction. If we assume that graduate instruction is minimal at these institutions then we can say that research use in the physical sciences seems to run a much higher percentage than the other areas with a median of 38% vs. 13% for the others (see Table 31).



Table 31

Utilization of Digital Computers for Research, Development and Education Institutions Offering Bachelors and/or First Professional Degrees SAMPLE SIZE 142 POP. SIZE 794

	· · · · · · · · · · · · · · · · · · ·	SAMPLE SIZE 142		POP. SIZE 794				
			Distribution	as (percentage of cost Total annual cost	of total = 100%)	utilization	
	Purpose	Engineer-	Physica1	Life	Social	Computer		
		ing (1)	Sciences (2)	Sciences (3)	Sciences (4)	Sciences (5)	Other (6)	Total*
	Median %	138	æ,	13	13	13	13	38
(1)	R&D and Graduate	(1)	(2)	(9)	(9)	(1)	(9)	(1)
	Instruction () Estimated No. of							
(5)	Institutions Undergraduate Instruction	11.1	Ç.	2.5	C F	ac	8	0
		(32)	(54)	(26)	1.5 (29)	(31)	(55)	88
(3)	Computer Center (e.g.,		٠,	•	•		,	c۲
	R&D in Software not	ą.					<i>h</i>	(25)
	Paramatan panatan pana				\ \	* .	,	
(4)	Library Sciences, Infor-	*		**	*	7		
	mation Retrieval Systems				•••			13
	(e.g., R&D in IRS not included elsewhere)							2
			,				,	
(5)	12442-Tast44-14				í , ì	· ··	•	!
	דערום-דויפרדרתרדטומד		•	•	•			(0)
(9)*	Total (1) through (5)	71	63	13	13	38	CC	001
		(32)	(55)	(26)	(83)	(31)	(55)	(91)
*(7)	Total (6) projected to	41	25	13	13	30	23	88
	T968-9	(36)	(29)	(30)	(42)	(35)	(55)	(96)

aSee footnote on Table 9 for interpretation



Item VII

F. DISCUSSION: INSTITUTIONS OFFERING TWO TO FOUR YEARS BEYOND THE 12th GRADE

1. Expenditures

Approximately 20% of the 688 institutions which offer two to four years beyond high school were included in the sample. (This group is made up almost entirely of the two-year schools and will be referred to hereafter as the "two-year institutions.") Based upon the responses of the sampled institutions the entire group spent an estimated $7\frac{1}{2}$ million on computers for research and instruction in FY65. From table 38 we see that the usage was almost entirely undergraduate instruction. Expenditures for FY69 are estimated to be nearly doubled or $14\frac{1}{2}$ million (see tables 32 and 33). To these figures we should add 2 1/3 million for the manufacturers' contributions in FY65 (table 34). Over 41/3 million (nearly 60%) of the $7\frac{1}{2}$ million expenditures in FY65 went for computer rentals, maintenance and purchases. For FY69 these items are expected to total approximately $7\frac{1}{2}$ million.

1 3/4 million was used by the two-year institutions to pay for 283 staff members in FY65 and an estimated 4.4 million will be required in FY69 to pay for a staff of 731. Current expenditures for FY65 (3.8 million) exceeded capital expenditures only slightly (3.7 million). However, for FY69 current expenses are estimated to be 10 million vs. about $4\frac{1}{2}$ million for capital expenditures.

2. Sources of Funds

Federal funds "primarily for computer activities" amounted to an estimated $1\frac{1}{4}$ million in FY65 and other sources (primarily state matching funds under NDEA, Title VIII) accounted for $1\frac{1}{2}$ million with the remaining 4 3/4 million coming from the two-year institutions themselves. For FY69 the Federal sources are estimated to provide 1.9 million, other sources 1.7 million and the institutions themselves are estimated to be able to provide 10.7 million (table 35).

3. Number of Institutions With Computers and Numbers of Computers in the Institutions

An estimated 150 of the 688 two-year institutions had a computer installed or on order by late 1966. These 150 institutions had 85 computers installed, 110 on order, and 22 of the installed machines were to be replaced by on order equipment (see table 15). Of the 85 installed machines 38 are estimated to be wholly leased and 41 complete systems were purchased.

4. Degree Programs in Computer Science and Related Areas

69 of the estimated 226 going degree programs during FY65 were associate degree programs in business data processing at the two-year institutions. An estimated 61 additional associate degree programs in business data processing were planned; also 6 in computer science and 11 in scientific data processing were planned at the same level (see Table 37).



Table 32 (from page VI-A-35)

Current Expenditures for Digital Computer Activities
by Cost Items and Number of Personnel
Institutions Offering Two to Four Years Beyond 12th Grade

		SAMPLE SIZE 141 POP. SIZE 688 Cost Item 1964	. 688 1964-5	1968-9 Projection	1
Α.	Current digital	ent (1964-5) and Projected (1968-9) expenditures for tal computer activities			1
	1.	Equipment rentals	943,000.00	2,559,000.00	
	· .	Rental or costs for building space to house computer activities	71,000.00	671,000.00	ı
	3.	Maintenance costs not already included in (1) or (2)	133,000.00	334,000.00	ı
	4.	Salaries and wages of personnelTotal	1,785,000.00	4,403,000.00	; ;
	10	a. Systems and utility programmers	292,000,00	839,000.00	
	- Europ	b. Administrative and other professional	1,149,000,00	2,673,000.00	ı
	J	c. All other (e.g., keypunch and other operators, clerical, technicians)	343,000.00	888,000.00	1
	5.0	Costs for purchase of off-campus computing service	00.000	51,000.00	ı
	9	Other direct costs (including materials and supplies)	260,000.00	606,000.00	;
	7. 1	Indirect costs (general institutional administrative and general expense allocation)	613,000.00	1,423,000.00	
Total	al		3,810,000.00	10,051,000.00	ı
œ.	Pleas for i	Please indicate full time equivalent number employed for items 4 (a), 4 (b), and 4 (c) above:	Number of	Personnel	1 1
	1. S	Systems and utility programmers		1906-9 Frojection	1
	2. A	Administrative and other professional	130	298	
	3. A	All other (keypunch and other operators, clerical, technicians, etc.)	101	309	
	' . .		283	731	46

Item III

Table 33 (from page VI-A-35)

Capital Expenditures for Digital Computer Activities
Institutions Offering Two to Four Years Beyond 12th Grade
SAMPLE SIZE 141 POP. SIZE 688

		Item		
Year	Computers and Peripheral Equipment	Buildings to House Computer Activities	Furniture, Fixtures, and other Equipment	Total
1964–5	3,282,000.00	235,000.00	264,000.00	3,782,000.00
1965-6 projection	1,454,000.00	71,000.00	248,000.00	1,776,000.00
1966-7 projection	2,310,000.00	156,000.00	197,000.00	2,664,000.00
1967-8 projection	1,673,000.00	45,000.00	191,000.00	1,909.000.00
1968-9 projection	3,876,000.00	316,000.00	366,000.00	4,560.000.00

Item IV.

(from page VI-B-34) Table 34

Additional Institutional and Manufacturers' Contributions Institutions Offering Two to Four Years Beyond 12th Grade SAMPLE SIZE 141 POP. SIZE 688

Item VI.

ERIC Full Text Provided by ERIC

Adequacy of charges as a means of support for sponsored research and development projects

- Did money received from eponsored R&D projects for computer usage equal the amount actually used in the case of
- R&D projects sponsored by the Federal Government
- R&D projects sponsored by non-Federal agencies (excluding institution's own funds)
- additional computing services to R&D projects sponsored If "no" in 1 (a) above, astimate the institution's own funds that were used to defray the costs of furnishing by Federal agencies.
- additional computing services to R&D projects sponsored If "no" to 1 (b) above, estimate the institution's own funds that were used to defray the costs of Furnishing y non-Federal agencies.

0N 1	No.	ſ
88	16	
Yes	Yes	

Yes

.-- ,000.00

157,000.00

- Equipment manufacturers' contribution
- rental of equipment made available from manufacturers in the form of discounts, allowances, etc., 1964-5. Estimated contributions toward purchase and/or

610,006.00	1,718,000.00	2,328,000.00
Current Expenditures	Capital Expenditures	Total

Table 35 (from page VI-A-35)

Current and Capital Expenditures for Digital Computer Activities,*

by Source of Funds for Reporting Period

Institutions Offering Two to Four Years Beyond 12th Grade

SAMPLE SIZE 141 POP, SIZE 688

Item II.

		Circles Courses	Canital**	Total	Projected
	Source of Funds	expenditures	expenditures	Col. (1)+(2)	1968-9
		(1)	(2)	= (3)	Total
Α.	Federal Government:				
	<pre>1. Contracts and grants primarily for computer activities ***</pre>	478,000.00	746,000.00	1,225,000.00	1,609,000.00
	2. Other contracts and grants	00.000,	00.000.00	00.000.00	253,000.00
ë.	Institution's own funds	2,941,000.00	1,835,000.00	4,776,000.00	10,715,000.00
່ວ່	Other sources (gifts, contracts, and grants from industry, State and local governments, etc.)	388,000.00	1,149,000.00	1,538,000.00	1,690,000.00
D.	Totals	3,810,000.00	3,731,000.00	7,541,000.00	14,268,000.00

^{*} Activities includes everything except the use of the computers for the institution's own administrative affairs.

^{**} Includes purchases of computer and peripheral equipment.

^{***} Total in column (3) should equal the total of all entries in Ltem V-A.

Expenditures of Funds Intended by the Funding Agency to be Used

Primarily for the Support of Computer Equipment, Buildings, and Activities
Institutions Offering Two to Four Years Beyond 12th Grade
SAMPLE SIZE 141 POP. SIZE 688

			2		
	Digital (Equipment or	. Computer or Buildings	Computer	Time for	Computer
Sources of Funds	Rental or Purchase Cost (1)	Operating Cost (2)	R&D & Grad. Instruction (3)	Undergrad. Instruction (4)	Science Activities* (5)
2. Sums of all other Federal Grants and Contracts (individual rates of less than \$50,000 per year)	00.000.	00.000,	00°000°	00.000,	000.000
** Total Federal	deral 770,000.30	162,000.00		118,000.00	
<pre>B. Non-Federal Grants and Contracts:</pre>	00				
р.	00.000,	,000.00	00°00°	00.000,	00.000,
ъ.	00.000,	00.000	00.000	00.000,	00.000,
• 2	00.000,	00.000	,000.00	,000.00	00.000,
d.	00.000,	00.000,	000000	000.000	,000.00
2. Other non-Federal Grants and Contract:	000.00 eral 783,000.00	,000,00	00.000,	00.000,	00.000.89
C. Total of A and B, 1964-5		348,000.00	00.000,	400,000.00	28,000.00
D. Total Projected, 1968-9	1,470,000.00	321,000.00	000000	410,000.00	28,000.00

*Computer Science Activities: Includes institutes, academic programs support, fellowships, etc.



Item V.

Population size 688 Institutions offering Two to four years beyond 12th grade (from page V-24) Table 37 Sample size 141

Computer Science Instruction Programs:

What degree programs did your institution offer in 1964-65, if any, in Computer Science, Information Science, Data Processing, etc.?

			Degre	es (check a	Degrees (check appropriate ones)	nes)
	Name of Program	Total	Assoc.	Bach.	Masters	Doctorate
В	Computer Science	0	0			
ا.	Business Data Processing	69	69			
ا ن	Scientific Data Processing	0	0			
d.						

What degree programs does your institution plan to offer in the next three years, if any, in Computer Science, Information Science, Data Processing, etc.?

	Name of Program	Totel	Assoc.	Bach.	Masters	Doctorate
89.	Computer Science	9	ζ.			
ا ف	Business Data Processing	1 9	19			
1	Scientific Data Processing	ជ	π			
.						

Estimate and project the number of students being trained to use computers at your institution.

	•		
aduate	1968-9	454,6	15,188
Undergraduate	1964-5	2,968	6,839
late	6-8961	τοτ	1,839
Graduate	1964-5	78	1,000

ä

۵,

2,968	6,839
101	1,839
92	1,000
Computer Science majors	Other majors (with at least some skill in using one programming language)

5. Numbers of "Computer Science" Majors and Numbers of Students Being Trained to Use Computers

Although an estimated 78 graduate majors (obviously data processing from section D) were enrolled in FY65 and 101 expected in FY69 it is not clear whether these are students beyond the bachelor's degree or associate degree (most likely, the latter). Nearly 3000 undergraduate majors in data processing were enrolled in FY65 and nearly 9500 are expected to be present for FY69.

Students receiving some computer education included 1000 "graduate" students and nearly 7000 undergraduates in FY65. These figures for FY69 are estimated to be nearly 7000 and over 15,000, respectively: (see Table 37).

6. Distribution of Usage as Percentage of Cost

The estimates given in Table 38 indicate that usage was spotty with the median percentage of use for computer science (data processing) at the undergraduate level being 81%. A few institutions had small percentages of use in engineering and the physical sciences for undergraduate instruction. About 34 institutions are estimated to have had "other" undergraduate instruction use at fairly high percentages since the median use in this category was estimated as being 60%. It is quite possible that some of these should have been included in the "computer science" category. Usage is expected to span all academic areas for FY69 with "computer science" and "other" to have median percentages of 64% and 75%, respectively.



Table 38

Utilization of Digital Computers for Research, Development and Education Institutions Offering two to four years Beyond 12th grade Sample size 141

	Sample Size 141	T+T			40 -	- Series		****
			Distributi	ion as percentage (Total annua	of cost 11 cost	of total = 100%)	utilization	
	Purpose	Engineer-	Physical	Life	Social	Computer	0.04	HO + 0.1
		ing (1)	Scrences (2)	sciences (3)	Sclences (4)	Sclences (5)	(6)	(7)
								;
(1)	R&D and Graduate Median	1	ł	1	ţ	1	జ	8 8
	Instruction () Estimated No. of	(0)	(0)	(0)	(0)	(0)	(9)	(9)
6	Institutions	188	13		1	81	9	88
3	חוותבי לו מתחמרב דוופרו חרבותו	(23)	(11)	(0)	(0)	(88)	(34)	(66)
(3)	Computer Center (e.g., R&D in Software not included elsewhere)							13 (18)
(4)	Library Sciences, Information Retrieval Systems (e.g., R&D in IRS not included elsewhere)							13 (6)
(5)	Extra-Institutional	•	•					(0)
(9)	Total (1) through (5)	18 (39)	13 (17)	(<u>o)</u>	(<u>o)</u>	81 (88)	(04)	100 (105)
(2)	Total (6) projected to 1968-9	18 (56)	13 (42)	15 (26)	13 (20)	(66) †9	75 (66)	88 (132)

aSee footnote on Table 9 for interpretation



Item VII.

G. RECOMMENDATIONS FOR FURTHER STUDY

1. Further Analyses of Summaries from Present Study

There are literally thousands of comparisons, estimates, and projections that can be made from the results of this study. The sampling design provided for 38 different strata, hence estimates for all variables are available for each stratum. These estimates can then be combined (cautiously, since standard errors were not computed) over any desired combinations of strata. Five such combinations were discussed on previous pages of this report, namely, al institutions, doctoral granting institutions, institutions offering masters and/or second professional degrees, bachelors and/or lirst professional degrees and institutions offering two to four years beyond 12th grade. Other groupings which were summarized but not discussed are public institutions by level of highest offering and private institutions by level. All of the summaries mentioned above are on file in the Office of Computer Activities of the National Science Foundation and most of them (those containing sufficient information) are included in Sections II-VII of this publication. Those who have needs for summary information not discussed here are referred to these sources.

2. Future Studies

If there is a need in the near future for the kind of detail which this survey treated, I recommend that serious consideration be given to a refinement of the sampling design based upon the knowledge gained from this study. The information gathered under Item I is being included in the NSF Inventory of Computers, Applications of Computers, and Instructional Programs in U. S. Kigher Education which is being established by the Computer Sciences Project of SREB. With this information available elsewhere, good enough estimates can be obtained on the financial variables with a much smaller sample. The stratification variates used in this study are not adequate for this purpose. Careful consideration must be given to strata selection by those for whem the survey is intended to provide information. These concerns plus considerations relative to providing greatest accuracy of the estimates at minimum cost will provide the proper basis for stratification.

A desirable approach to re-design for future studies would be to select a sampling design, draw a sample accordingly and then use the present data files, or those of the new NSF inventory, to test the efficiency of the sampling design. This process would likely need to be repeated several times before a satisfactory design would be accepted. For such simulation studies it would be necessary to compute the standard errors as well as the estimates of the variables under consideration. Obviously, the design cannot guarantee that all variables are to be controlled to the same degree of accuracy. The most critical variables should be used to establish the sampling design.



55

REFERENCES

- (1) <u>bigital Computer Needs in Universities and Colleges</u> (Rosser Report)
 National Academy of Sciences, National Research Council, Washington,
 D. C., 1966, 176 p.
- (2) Opening Fall Enrollment in Higher Education, 1965, Office of Education, U. S. Department of H. E. W., Superintendent of Document, U. S. Government Printing Office, Washington, D. C. 20042, 50 cents.



APPENDIX A.

THE SURVEY

1. Survey Design

In March 1966 the National Science Foundation contracted with the Southern Regional Education Board for its Computer Sciences Project to finalize the questionnaire, disseminate it to the institutions of higher education, process the returns, and summarize the results. Upon the recommendation of the Bureau of the Budget, the National Center for Educational Statistics of the Office of Education drew a stratified (systematic) random sample of approximately seven hundred (700) of the nation's over twenty-two hundred (2,200) institutions of higher education. The total population was first stratified into thirty-eight (38) strata on the basis of three characteristics as follows:

		Code
Α.	Type of Control (CTL) a. Public b. Private	1 2
В.	Type of Institution (TYPE) a. Semiprofessional School b. Private c. Liberal Arts College d. Teachers College e. Independent Technological School f. Theological or Religious School g. Other Independent Professional School h. Junior College i. Technical Institution	0 1 2 4 5 6 7 8 9
c.	Highest Level of Offering (LEVEL) a. 2 to 4 Years beyond 12th Grade b. Bachelors and/or First Professional Degrees c. Masters and/or Second Professional Degrees d. Doctor of Philosophy or Equivalent Degrees e. Other	1 2 3 4
		,

All strata for doctoral granting institutions were sampled 100%. Sixteen strata contained fewer than ten institutions and were also left in completely. Various sampling rates (from 10% to 50%) were selected for the remaining strata and a systematic random sample was taken from each of these strata after their institutions had been sorted on enrollment.

A punched card deck for the institutions in the sample was then furnished to SREB by the Office of Education. One card for each school contained the name and address of the school, its state and identification code numbers and the stratification variates.



2. General Response

When all factors are considered, I feel that the response was quite good. The overall response rate was 92%. Response rates and effective sampling ratios are shown by strata in Table 1.

The questionnaires were all mailed within a two-day period in mid-July, 1966. The first follow-up was in the form of a reminder letter on September 23 and was sent to the president of all of the institutions which had not responded. A second follow-up, a return postcard type, was sent on December 20 and another letter was dispatched on January 20, 1967. The important characteristic of the follow-ups was that they were sent simultaneously to all non-respondents as of a given time. No special prodding was given to individual institutions. Because of the manner in which the follow-ups were handled and the high rate of response for the strata which provide the greatest contribution to the total estimates, non-respondents have been considered as not having been in the sample originally rather than attempting to make corrections for missing data (i.e., the sample number for a given stratum is taken to be the number of respondents from the original sample).

3. General Appraisal of Accuracy of Responses

Since this survey was the first statistical study to delve deeply into the sources of funds and types of expenditures for college and university computing facilities, it posed a great problem for many of the larger institutions. I am certain that many man days were required to provide the requested data in some cases. Though the temptation to use a random number generator might have been strong at times, I feel certain that a very high percentage of the institutions made an honest effort to obtain and report accurate figures. I personally edited each returned instrument and verified that certain cross checks which had been built into the questionnaire did check. In some cases a phone call was necessary to iron out a discrepancy. Occasionally an institution did not respond to an item rather than insert estimates, even though they were encouraged to do so in the instructions which accompanied the questionnaire. This was particularly true for the last page of the questionnaire dealing with distribution of usage by percent, the indirect cost items and the manufacturers' contributions.

4. General Appraisal of Accuracy of Estimates

The accuracy of the estimates will vary from item to item. Those which were easily identifiable such as machine rental and salaries for 1964-65 are probably accurate to within * 10% whereas something like indirect costs may be off as much as 20% on the low side. In this case a bias was introduced because of the frequency of non-response or obviously low response. To partially correct for this bias a 20% of direct costs amount was supplied whenever the item was left blank. In no case do I recall that an excessive rate was included but in many cases an obviously low rate was reported, thus leading me to conjecture that the estimates of indirect costs are about 20% low. By essentially the same observations and reasoning I believe the manufacturer's contribution to be as much as 30% low.



TABLE 1
Population, Sample and Response Summary

				f Instituti		Percent	Effective
CTL	Stra TYPE	ta _LEVEL_	In Population	In Sample	Responding n'	Response 100 n'/n	Sampling Ratio
<u>Publi</u>	<u>.c</u> :						
Univ	ersitio	B.3					
1	1	4	106	106	97	91	1.09
	r Four- itution						
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	122224445555	323 5234234	4 48 60 7 1 37 116 5 6	12 20 7 10 39 56 76	4 12 18 7 1 9 33 5 5	100 100 90 100 100 90 85 100 83 86	1.00 4.00 3.33 1.00 1.00 4.11 3.52 1.00 1.20 1.17
1 1 1 Two-1	7 7 7	4 2 3 4	6 1 1 8	6 1 1 8	6 1 1 8	100 100 100 100	1.00 1.00 1.00 1.00
Inst	itution	ıs					
1 1 1	0 8 9	1 1 1	50 700 8	3 79 10	3 71 8	100 90 80	2.67 5.63 2.50
All Pi	ublic		841	325	295	91	-
Privat	te:		•				
Unive	ersitie	s					
2	1	4	66	66	61	92	1.08
	r Four- tution						
2 2	1 2 2	3 2 3	9 508 172	9 85 57	9 31 55	100 95 97	1.00 6.27 3.13



TABLE 1 (continued)

Population, Sample and Response Summary

				f Instituti		Percent	Effective
CTL	Strat TYPE	a LEVEL	In Population N	_		Response	Sampling Ratio
			14	<u>n</u>	n'	100 n'/n	N/n'
Ins	er Four titutio ntinued	ns	•				
	2444555666777	4234234234234	22 19 8 1 14 6 9 108 70 29 53 13 11	22 6 8 1 7 6 9 10 10 7 14 13	20 5 8 1 5 7 10 8 6 14 11 9	91 83 100 100 72 83 78 100 80 86 100 85 82	1.10 3.80 1.00 1.00 2.80 1.20 1.29 10.80 8.67 4.83 3.79 1.18 1.22
-	-Year titutio	ons					
5 5 5	0 8 9	1 1 1	22 231 7	11 47 7	10 43 6	91 91 86	2.20 5.37 1.17
All	Private	•	1,378	406	374	92	'
All	Institu	tions	2,219	731	669	92	



60

Standard errors for the estimates were not computed because of need for economy in the processing costs, and because the high percentage of contribution to the estimates by universities (originally in sample 100%). Because of the latter and the biases referred to above I do not feel that the standard errors would have provided sufficient additional useful information to justify the added processing costs.



APPENDIY B

Projections of numbers of institutions with computers and number of computers in institutions for research and instructional purposes.

The data used for the Rosser Report also included computers used solely for administrative purposes (approximately 100). The number of computers used for research and instruction were obtained as follows:

No. for January 1966 (880) = No. installed (858) plus no. on order for delivery in 1965 (22)

No. for January 1967 (991) = No. for January 1966 (880) plus no. on order for delivery in 1966 (211) minus no. to be replaced (100)

No. for January 1968 (1100) = No. for January 1967 (991) plus no. on order for delivery in 1967 (209) minus no. to be replaced (100)

These three points are approximately collinear. Projections for 1969 and 1970 were obtained by extending the line connecting these three points to give approximately 1200 and 1300 for the number of computers expected to be in use at colleges and universities primarily for research and instructional purposes by January 1969 and January 1970, respectively. I feel that these estimates are more in line with reality than what we would get by using the number of computers given as being on order for 1968 and 1969 since colleges and universities do not plan that far ahead as a rule.

The survey estimates give 707 as the number of schools having access to at least one computer for research and instruction. If we place this figure as being representative of the situation as of January 1967, then we have an approximate excess of 300 computers over the number of schools. By assuming this difference to remain constant we can draw a line from this point parallel to the line for the no. of computers.

From the above assumptions we arrive at the estimates given in Table 6.



TABLE 1

Strata	Number of Institutions	Estimated Number of Institutions with Computers	Percentage
Public:			
Universities			
114	106	103	97%
Other Four-Year Institutions			
1 1 3 1 2 2 1 2 3 1 2 4 1 2 5 1 4 2 1 4 3 1 4 4 1 5 3 1 5 4 1 7 2 1 7 3 1 7 4	48 60 7 2 37 116 5 6 7 6 1 1 8 308	4 20 50 6 1 4 56 4 7 6 0 1 5	55%
Two-Year Institutions			
1 0 1 1 8 1 1 9 1	8 400 20 428	0 141 8 149	35%
All Public	··842	420	50%
Private:			
Universities			
2 1 4	65	61	94%
Other Four-Year Institutions			
2 1 3 2 2 2 2 2 3 2 2 4 2 4 2 2 4 3	9 508 1 7 2 22 19 8	3 82 81 17 0	



TABLE 1 - Continued

Strata	Number of Institutions	Estimated Number of Institutions with Computers	Perce ntage
Other Four-Year Institutions (continued)			<u> </u>
2 4 4 2 5 2 	1 14 6 9 108 70 29 53 13 11 1,052	0 6 4 7 0 0 0 8 5 6	21%
Two-Year Institutions			
2 0 1 2 8 1 2 9 1	22 231 <u>7</u> 260	0 0 <u>1</u>	0%
All Private	1,377	287	
All Universities	172	164	95%
All Other Four-Year Institutions	1,359	393	29%
Two-Year Institutions	688	150	22%
TOTAL	2,219	707	32%



TABLE 2 Number of Computers Installed and On Order by Strata

Strata	Estimated No. Installed 6/30/65	Estimated No. On Order 1966-69	Estimated No. to be Replaced	Estimated No. Computers	Percent Net Increase
Public:	<i>5</i> , 50, 67	1700-09	1966-69	(Net)	
Universities					
114	284	121	86	319	10
Other Four-Year Institutions				319	12
1 1 2 3 1 2 3 1 2 2 3 4 5 2 3 4 1 5 5 2 3 4 1 5 5 3 4 1 7 7 4 1 7 1 7 4	4 12 52 10 2 0 31 4 3 7 9 1 7	2 8 34 2 0 4 41 4 2 2 7 1 4 111	1 0 22 4 0 0 7 3 0 1 1 1 43	5 20 64 8 2 4 65 5 8 13 1 10 210	25 67 23 (20) 0 110 25 67 14 45 0 43
Two-lear Institutions					
181 191	77 7 84	109 0 109	<u>51</u> 51	165 <u>7</u> 172	114 0 105
Private:				• •	
Universitie					
214	169	75	56	188	11
Other Four-Year Institutions					
2 1 2 3 4 3 2 2 4 5 5 5 5 7 7 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	7 55 67 18 1 5 3 11 3 5	3 36 39 9 0 0 2 7 3 1 1	0 0 15 6 0 0 2 5 0 0 1	10 91 91 21 1 5 3 13 6 4 5	43 65 36 17 0 0 18 100 33 0



Table 2 - continued

65

Strata	Estimated No. Installed	Estimated No On Order	to be Replaced	Estimated No. Computers	Percent Net Increase
	6/30/65	1966-69	1966-69	(Net)	
Twó-Year Instituti	ions				.e
291	ı	1	1	1	0
All Institutions	85 6	518	236	1,140	33



Appendix C

Estimated Number of Degree Programs by Name of Program

Totals

	A	В	M	D	T
Going Planned	83 105	44 107	61 76	38 43	226 331
Total	188	151	137	81	557

LEGEND

A = Associate
B = Bachelor

M = Master

D = Doctorate

T = Total

Computer Science

	A	В	М	D	T
Going Planned	0 17	11 81	17 59	12 26	40 183
Total	17	92	75	38	223

Options In:

Math

	r.	В	М	D	T
Going Planned	0	10 7	84	6	24 13
Total	1	17	12	7	37

Business Data Processing

	A	В	М	D	T
Going Planned	83 74	6	3 1	1	93 85
Total	157	15	4	2	178

Electrical Engineering

	A	В	M	D	T
Going Planned	00	52	8	6 1	19 4
Total	0	7	9	7	23

Information Science

	A	В	M	D	T
Going Planned	0	N N	12 5	4 9	18 16
Total	0	4	17	13	34

Applied Science

	A	В	М	D	T
Going Planned	00	0 0	1	0	1 2
Total	0	0	2	1	3

Scientific Data Processing

	A	В	M	D	T
Going Planned	0 13	00	00	00	0 13
Total	13	0	0	0	13

Management Science

	A	В	M	D	T
Going Planned	0	0 0	2	1	3 2
Total	0	0	3	2	5



Appendix C (cont'd)

Estimated Number of Degree Programs by Name of Program (continued)

Quantitative Analysis

	A	В	М	D	T
Going Planned	0 0	1 0	5	1	4 0
Total	0	1	2	1	4

Information Systems

	A	В	M	D	T
Going Planned	00	0	0	0	0 5
Total	0	1	3	1	5

Systems Engineering

	A	В	M	D	T
Going Planned	00	1 3	1	1	3 3
Total	0	4	1	1	6

Machine Computers

	A	В	M	D	T
Going Planned	0	1	1	0	2
Total	0	1	1	1	3

Industrial Engineering

	A	В	М	D	T
Going Planned	00	10	1	10	3 0
Total	0	1	1	1	3

Linguistics

	A	В	M	D	T
Going Planned	0	00	1 0	1	<u>ک</u> 0
Total	0	0	1	1	2

Statistics

	A	В	M	D	T
Going Planned	0	0	1	1	2
Total	0	1	2	2	5

Administrative Science

	· A	В	М	D	T
oing Planned	0	3 1	00	00	3 1
Total	0	4	0	0	4

Systems Analysis

	A	В	М	D	T
Going Planned	0	1 0	1 0	00	20
Total	Q	1	1	0	2

Systems and Communications Science

	A	В	M	D	T
Going Planned	0	0 N	ON	30	7
Total.	0	2	2	3	7



APPENDIX D

GENERAL AVAILABILITY OF COMPUTERS TO STUDENTS IN HIGHER EDUCATION

The data on computers and computer science programs was furnished by the institutions during the fall of 1966. Even though the financial data was requested for the year 1964-65, there was no clear-cut instruction as to a definite cut-off on computers-on-hand and academic major programs going. Therefore, the institutions tended to report status quo with regard to these items. The major exception being that computers installed after July 1, 1965, were generally listed as "on order." For these reasons, it appears logical to use enrollment figures for the fall of 1965 for any statements regarding computers in groups of institutions vs. enrollments. The sample of institutions was drawn from a spring 1966 version of the Office of Education list of higher institutions and will therefore not agree exactly with those appearing in Opening Fall Enrollment in Higher Education, 1965, Office of Education.

The estimates obtained in Tables 1 and 2 are made possible because of the manner in which the samples were drawn for each strata. The method used is called systematic random sampling after the institutions within each stratum were sorted according to enrollment. The methods used in the computations of the estimates do not warrant precise statements. However, we are safe in saying that computers are available in public higher institutions enrolling approximately 45% of our 6 million higher education students, in private higher institutions enrolling 15% of the students or that computers are available on campuses which enroll approximately 60% of the college and university students. Conversely, we can say that approximately two out of every five college and university students have no opportunity to have access to a computer.



Level of Institutions and Type of Control	1965 Fall Enrollment	Estimated Total No. of Students Introduced to Computer/Year	Estimated for 4-Year Period	Percent of Total Enrollment	Estimated 1968 Fall Enrollment	Estimated Total No. of Students to be Introduced to Computers	Estimated for 4-Year Period	Percent of Total Enrollment
Public:								
Universities	1.7	20.	88.	16	2.1	.22	88.	24
Other Four-Year Institutions	1.3	.02	80°	9	1.5	•05	ୡ	13
Two-Year Institutions	1.0	0.01	†0 °	#	1.1	.03	.12	11
All Public	0*†	.10	04°	10	1.4	.30	1.30	26
Private:								
Universities	7.	.03	.12	17	.7	.08	.32	9#
Other, Four-Year Institutions	٦ .	.05	.12	10	1,4	60°	36	56
Two-Year Institutions	r.	00.	8	0	્ય	00.	00.	0
All Private	2.0	90.	₽5.	12	2.3	.17	.68	30
All Universities All Other Four-	₹ .	.10	Q.	17	ଌୄ	.30	1.20	54
Year Institutions	2.5	• 05	8.	13	2.9	41.	.56	19
Institutions	1.1	10.	†O*	4	1.3	50.	.12	6
ALL INSTITUTIONS	0.9	.16	49.	11	7.0	<i>Σ</i> η.	1,88	27

	(1)	(2)	(3)	(†)	(5)
Level of Institutions and Type of Control	No. of Institutions	Estimated* No. of Institutions with Computers	Est. % of Institutions with Computers (2) ÷ (1)	1965 Fall Enrollment (Millions)	Estimate of No. Students in Institutions with Computers (Millions)
Public:					
Universities	901	103	97	1.7	1.6
Other Four-Year Institutions	307	168	55	1.3	2.
Two-Year Insitutions	428	149	35	1.0	ক
All Public	84.1	750	50	0.4	2.7**
Private:					
Universities	%	61	92	2.	9.
Other Four-Year Institutions	1,052	225	23	1.2	ņ
Two-Year Institutions	560	г	0	r.	0,
All Private	1,378	287	27	2.0	**6.
All Universities All Other Four-Year Institutions All Two-Year Institutions	172 1,359 688	164 293 150	5,89,89	2.5 1.1	**************************************
ALL INSTITUTIONS	2,219	707	32	6.0	3.6**
* See Table 1 for estimates by	strata. (Appendix	dix B)			

* See Table 1 for estimates by strata. (Appendix B)

** Obtained by addition of proper basic estimates, nct (3) X (4)

70

OF DIGITAL COMPUTERS FOR RESEARCH AND INSTRUCTIONAL USES ONLY, 1964-5 QUESTIONNAIRE ON EXPENDITURES, SOURCES OF FUNDS, AND UTILIZATION

Information
General
Item I.

ERIC Full Text Provided by ERIC

systems:
computer
and
institution
of
Identification
Α.

ress
Add
sndu
Car
Ξ

nstitutional Representative providing data:

	ı		Avg. Use Hrs./Mo.						
			Avg. Use Both Hrs./Mo.	-		_			which
									for
			Purch.						stems
mber		etc.)	Lease						ıly sy
Telephone Number		IBM 7090, CDC 3600, GE 235, etc.)	Year Installed Lease						(Include only systems for which
T)09E 3G(ystem						
	30/65)	M 7090, C	Computer System						of expected delivery.
	/9 03	•	٥	4.	.	h.	ا بن	•	oadxa
:1e	1/64 1	(i.e.	Use/Mo.			_			i
Titl	.n 7/1	port	Avg. Use Hrs./Mo.			-			date
	er tha	in re	Avg. Both Hrs.						and (
	f othe	luded	urch.						f any made.
	iod (i	ms inc	ease P						der (i been
	per	yste	ed L						on or have
Nаme	(3) 12-Month reporting period (if other than $7/1/64$ to $6/30/65$)	List of Computer Systems included in report	Year Installed Lease Purch.						Computer Systems on order (if any) and dates legal commitments have been made.)
	nth r	of Co	rstem						uter S L comm
	12-Mc	List	er Sy						Comp.
	3	(4)	Computer System						(5)
			•		٠.	ا ن	֡֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֓֓֓֡֡֡֓֓֓֡֓֡֓֓֡֓֡	ี่ข้	f

APPENDIX E

QUESTIONNAIRE

Delivery Year		
Computer System	• 0	q.
Delivery Year		
*Computer System	• ત	ъ.

Which computers listed in (4), if any, are to be replaced by those listed in (5)? (9)

Ĵ	
ij	
h	
8	
£	
e	
þ	
ပ	
Ъ	
ø	

Item I. (continued)

8. Computer Science Instruction Programs:

What degree programs did your institution offer in 1964-65, if any, in Computer Science, Information Science, Data Processing, etc.?

:	Degre	es (check a	Degrees (check appropriate ones)	nes)
Name of Program	Assoc.	Bach.	Masters	Doctorate
• લ				

What degree programs does your institution plan to offer in the next three years, if any, in Computer Science, Information Science, Data Processing, etc.?

Doctorate			
Masters			
Bach.			
Assoc.			
Name of Program	ъ.	•5	d.

Estimate and project the number of students being trained to use computers at your institution.

aduate	1968-9	
Undergraduate	1964-5	
ıate	1968-9	
Graduate	1964-5	

Current and Capital Expenditures for Digital Computer Activities,*
by Source of Funds for Reporting Period

A. Federal Government: 1. Contracts and grants primarily for computer activities *** 2. Other contracts and grants 3. Other contracts and grants 4. Totals 1. Contracts and grants		Source of Funds	Current expenditures (1)	Capital** expenditures (?)	Total Col. (1)+(2) = (3)	Projected 1968-9 Total
1. Contracts and grants primarily for computer activities *** 2. Other contracts and grants Institution's own funds Other sources (gifts, contracts, and grants from industry, State and local governments, etc.) Totals Occupation (1000.00 (100	A.	Federal Government:				
2. Other contracts and grants ,000.00 ,000.00 ,000.00 ,000.00 Institution's own funds ,000.00 ,000.00 ,000.00 ,000.00		 Contracts and grants primarily for computer activities *** 	00.000,	00.000,	00.000,	00.000,
Institution's own funds ,000.00 ,000.00 ,000.00 Other sources (gifts, contracts, and grants from industry, State and local governments, etc.) ,000.00 ,000.00 ,000.00 Totals ,000.00 ,000.00 ,000.00 ,000.00			,000.00	00.000,	00.000,	00.000,
Other sources (gifts, contracts, and grants from industry, State and local sovernments, etc.) Totals Other sources (gifts, contracts, and grant strom industry, State and local sources),000.00 ,000.00 ,000.00	m.	Institution's own funds	00.000,	000.000	00.000,	00.000,
Totals ,000.00 ,000.00 ,000.00	ပ	Other sources (gifts, contracts, and grants from industry, State and local governments, etc.)	00.000,	00.000,	00.000,	000.000
	D.	Totals	00.000,	00.000,	00.000,	00.000,

^{*} Activities includes everything except the use of the computers for the institution's own administrative affairs.

Item II.

^{**} Includes purchases of computer and peripheral equipment.

^{***} Total in column (3) should equal the total of all entries in Item V-A.

Item III.

Current Expenditures for Digital Computer Activities by Cost Items and Number of Personnel

Cost Item	1964-5	1968-9 Projection
(1968-9) expenditures for		l l
	00.000	00.000.
or costs for building space to house computer ies	000.000	00.000,
Maintenance costs not already included in (1) or (2)	00.000,	00.000,
Salaries and wages of personnel		
Systems and utility programmers	000.000	00.000,
Administrative and other professional	00.000,	00.000,
(e.g., keypunch and other operators, technicians)	,000.00	00000
Costs for purchase of off-campus computing service	00000	00.000,
direct costs (including materials and supplies)	00.000	00.000,
Indirect costs (general institutional administrative and general expense allocation)	00.000,	00000
	00.000	00.000,
Please indicate full time equivalent number employed for items 4 (a), 4 (b), and 4 (c) above:	Number of	
	1964-5	1968-9 Projection
Administrative and other professional		
All other (keypunch and other operators, clerical, technicians, etc.)		

Capital Expenditures for Digital Computer Activities

		Item	
Year	Computers and Peripheral Equipment	Buildings to House Computer Activities	Furniture, Fixtures, and other Equipment
1964-5	°,000°	00.000,	000.000
1965-6 projection	00.000,	000.000	00.000,
1966-7 projection	00°000°	00.000,	00.000,
1967-8 projection	00*000*	000.000	00.000,
1968-9 projection	00*000*	000.000	00.000,

Item IV.

"*penditures of Funds Intended by the Funding Agency to be Used Primarily for the Support of Computer Equipment, Buildings, and Activities

Source of Funds	ital ent o	Computer r Buildings	Computer	Time for	Computer
Federal Grants and Contracts 1. Annual Rates Greater than \$50,000 per yr.	Rental or Purchase Cost (1)	Operating Cost (2)	R&D & Grad. Instruction (3)	Undergrad. Instruction (4)	Science Activities* (5)
a. Agency Grant or Contract Number Effective Date Agency Program Monitor (individual) if known	00.000,	00000	00000	000.000	00000
b. Agency Grant or Contract Number Effective Date Agency Program Monitor (individuent	00°000°	000.000	000.000	,000.00	000.000
c. Agency Grant or Contract Number Effective Date Agency Program Monitor (individual) if known	00.000,	000.000	000.000	000.000	00.000,
d. Agency Grant or Contract Number Effective Date Agency Program Monitor (individual) if known	00.000.	,000.00	000.000	00000,	00.000,

Includes institutes, academic program support, fellowships, etc. (Use separate attachment listing additional items if necessary.) *Computer Sciences Activities: Includes institutes, academic pro



Item V.

Item V. (continued)

	ital ent c	Computer	Computer	Time for	Computer
Sources of Funds	Rental or Purchase Cost	Operating Cost (2)	R&D & Grad. Instruction (3)		Science Activities* (5)
2. Sums of all other Federal Grants and Contracts (individual rates of less than \$50,000 per year)	000.000	00.000,	000.000	00.000,	000.000
<pre>B. Non-Federal Grants and Contracts:</pre>					
а.	,000.00	,000.00	0000,	,000.00	00.000,
b.	,000.00	00.000,	00.000,	000.000	000000
C.	,000.00	00.000,	,000.00	00.000,	000000
d.	00.000*	00000	000000	000000	00.000,
2. Other non-Federal Grants and Contracts	000000	000.000	00.000,	00.000,	00°000*
C. Total of A and B, 1964-5	00.000,	000.000	00.000,	00.000,	00.000,
D. Total Projected, 1968-9	00.000,	0000,000	,000.00	00.000,	00.000,

Science Activities: Includes institutes, academic programs support, fellowships, etc.

Adequacy of charges as a means of support for sponsored research and development projects

- Did money received from sponsored R&D projects for computer usage equal the amount actually used in the case of
- a. R&D projects sponsored by the Federal Government
- b. R&D projects sponsored by non-Federal agencies (excluding institution's own funds)
- . If "no" in 1 (a) above, estimate the institution's own funds that were used to defray the costs of furnishing additional computing services to R&D projects sponsored by Federal agencies.
- If "no" to 1 (b) above, estimate the institution's own funds that were used to defray the costs of furnishing additional computing services to R&D projects sponsored by non-Federal agencies.

00.000.

- B. Equipment manufacturers' contribution
- 1. Estimated contributions toward purchase and/or rental of equipment made available from manufacturers in the form of discounts, allowances, etc., 1964-5.

00*000*	00.000,	00.000,
Current Expenditures	Capital Expenditures	Tota1

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ion from the following sciences from the social computer (1) (2) (3) (4) (5) (5) (6) (7) (7) (1) (1) (1) (1) (1) (1) (1) (1) (2) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1			Distribution	as percer (Total	of cost 1 cost	0	ilization	
	Purpose	Engineer- ing (1)	Physical Sciences (2)	Life Sciences (3)	Social Sciences (4)	Computer Sciences (5)	Other (6)	Total* (7)
	l&D and Graduate instruction							
	Indergraduate Instruction							
	Computer Center (e.g., st.) in Software not included elsewhere)						V	
	ibrary Sciences, Infor- lation Retrieval Systems e.g., R&D in IRS not ncluded elsewhere)							
	xtra-Institutional							
	otal (1) through (5)	·		•		,		
	Total (6) projected to 1968-9					·		

sum of the entries in Column 1-6 should equal the entry in Column 7 for lines 1 and 2 only. * The sum of the entries in Column 1-6 should equal the ent ** The sum of the entries in Columns 1-6 may not equal 100%.

National Survey on Expenditures, Sources of Support, and Utilization of Digital Computers at Academic Institutions in Research and Instruction, 1964-5*

General Comments:

This questionnaire is intended to be used to summarize data on all digital computers used in research and instructional activities at a single major campus of an institution. Because of the importance being attached to this study, a careful attempt has been made to request information in a manner which would be readily available at most institutions. However, it is recognized that individual differences among academic institutions may make some of the information difficult or impossible to provide in the manner requested. Do not report expenditures or utilization figures for equipment used in the administration of the institution. If computer facilities are used jointly for administration, regearch, instructional, and area services, then allocate costs on the basis of the percentage of non-administration uses.

Separate forms should be completed for each campus. However, more than one form may be used for a single campus when significant distortions would result otherwise.

"Equipment" refers to all electronic digital computers and peripheral equipment such as card readers, card punches, etc.

At many institutions a substantial investment in computer equipment will exist separate from a centralized installation. It is intended that all such equipment and usage be included. Fiscal information should be given in thousands of dollars, rounded to the nearest thousand. Data accurate to within ten percent would be most useful, but if this is not possible, rougher estimates should be included.

^{*1964-5} data is requested for uniformity even though later data might be available.



This survey is being carried out by the Computer Sciences Project of the Southern Regional Education Board for and under contract with the National Science Foundation. No part of the financial data will appear in any form which will be identifiable with the institution.

Comments on Specific Items:

Item I:

A(2) Normally, the individual preparing the questionnaire and from whom additional information can be obtained, if needed.

Item II:

(D) The total for current expenditures should equal the total of 1964-5 expenditures in Item III.

Item III:

(A) In cases where manufacturers discounts or other allowances for equipment have been provided, report only net costs to the institution. This instruction applies also to Item IV. (cf. Item VI)

Item V:

This Item attempts to exhibit individual, usually large, sources of funds intended privarily for computer activit es <u>per se</u> or for computing equipment (and buildings) intended for general research and educational needs.

- V(A) Providing the name of the individual program monitor from an agency will assist efforts to coordinate institutional needs with the plans of Federal agencies.
- Column (2): Include only salaries and wages, maintenance and other direct costs. (i.e., do not include overhead or indirect costs.)

Item VI:

(A) Many institutions have reported that monies received toward computing-time charges for work on sponsored R&D grants and contracts usually do not cover the cost of time actually provided to such users. Part A is intended to provide NSF with estimates of the magnitude of this discrepancy.

Item VII:

This Item is intended to indicate the distribution of computer activities for various purposes, each item being expressed as an estimated percentage of the total cost based upon usage.

VII(5) i.e., utilization of equipment or services by individuals or organizations which are not a part of the institution submitting this report.

If there are further questions, please contact:

Dr. John W. Hamblen Computer Sciences Project Director Southern Regional Education Board 130 Sixth Street, N. W. Atlanta, Georgia 30313

Office Phone: 404-875-9211 (Home Phone: 404-938-0866)





II. Listing of Institutions in Sample and Their Computers (Item I-A of Questionnaire)

institutions which responded to the questionnaire and had computers either installed or on order are ted with the exception of eleven institutions which requested that they rot be listed. All list Note:

Even though the questionnaire requested that the institutions "include only systems for which legal committments The country. Changes are constantly being made on orders for a variety of reasons, particularly for large systems. The reader should not assume that the on-order status in a given instance has been consumated or represents the present have been made" for on-order computers we know that this statement was not interpreted uniformly throughout the status.

Strata Identification:

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Type of Control	TXFE = TYPE of TUSCICACIONS	TRANSP = UTRIBLE PEACE OF OTTENTED
Public Private	<pre>0 = Semiprofessional School 1 = University 2 = Liberal Arts College 4 = Teachers College 5 = Independent Technological School 6 = Theological or Religious School 7 = Other Independent Professional School 8 = Junior College 9 = Technical Institution</pre>	<pre>1 = Two to Four Years beyond 12th Grade 2 = Bachelor's and/or First Professional Degree 3 = Master's and/or Second Professional Degree 4 = Doctor of Philosophy or Equivalent Degree 5 = Other</pre>

C465 1964-65 CUMPUTER SURVEY -- SOUTHERN REGIONAL EDUCATION BUARD COMPUTER SCIENCES PROJECT

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BUARD COMPUTER SCIENCES PRUJECT

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF CONTRACT NSF ITEM I-A-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 -4.5.6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT
CONTRACT NSF C465

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AND ON ORDER	CTL 1 TYP	COMPUTER SYST.	16	O	16	162	140			360/4	360	IBM 1500	180	BM 707	BM	BM 140	BM 146	BM 1620	CDC LGP 30	BM 360/4	BM 360/6	BM 360/5	BM 140	NI SS8	8M 1	00 160	DC 160	BM 1620	IBM 360/30				BM 162
INSTALLED		ິບ										48824			48202									55455								_	39782
ITEM I-A-4,5,6 COMPUTERS		INSTITUTION									ICHIGAN STATE UNIVE	LANSING MICHIGAN		AYNE STATE UN	DIT MICHIGAN								NIVERSITY OF MINNES	EAPOLIS MINNESOTA								S	TAIL COLLEGE MISSIS

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1964-65 COMPUTER SURVEY -- SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

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ITEM I-A-4,5,6 COMPUTERS IN	INSTALLED	AND	UN ORDER	FOR	RESEARCH	AND INS	INSTRUCTIONAL	NAL US	AL USES	
		CTL		TYPE 1	LEVEL	L 4				
INSTITUTION	ပ	COMPUTER	SYST	. YEAR INST	TO BE Replaced	LEASE D	PURCH	вотн	1964-65 Avg.use HRS/Mū	
		IBM	360/40	99						
UNIVERSITY OF MISSISSIPPI UNIVERSITY MISSISSIPPI	38677	1 B M	1620 36C/44	59				*	400	
UNIV OF MISSOURI AT COLUMBIA COLUMBIA MISSOURI	A 65201		1620 1710 1620 162011	00004 04 w v	×××	• • • •			188 349 250	
		IBM	360/40	9 9						
UNIV OF MISSOURI AT ROLLA Rolla missouri	65401	T T T T	1620 1620II 360/40 360/50	666 648 648	××	•		•		
MONTANA STATE UNIVERSITY BOZEMAN MONTANA	59715	18#	162011	49		*			246	
UNIVERSITY OF MONTANA Missoula montana	59801	IBM	1620	63			•		100	
UNIVERSITY OF NEBRASKA Lincoln Nebraska	68503		1410 1620 1620 1620 7040 360/50	666 665 665 665 665 665 665 665 665 665	×		•		500 300 300	
UNIVERSITY OF NEVADA Renu Nevada	89502	1 B M	162011	64		*			220	
UNIVERSITY OF NEW HAMPSHIRE DURHAM, NEW HAMPSHIRE	03824	10x 10x	1620 360/40	66 66				*	260	

964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465

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I-A-4,5,6
ITEM

. NSF C465	پ	. w _								PAGE II- 11
CONTRACT JSES	5	AVG. US HRS/MO		200	200	200	0000 000 000 000 000	257	700 700 700 250	294
		80TH								*
INSTRUCTIONAL		PURCH			***	•	*	*		
AND INS	EL 4	LEASE Ed	•	* *			* * *		* * * *	
RESEARCH	LEVEL	TO BE Replace	×		×		××	×	×××	
FOR	TYPE 1	YEAR	63 67	6 6 6	0 0 0 0 0 0 0 0 0 0	63	9 9 9 9 9 9 9 4 4 4 9 9 9 9 9 9 9 9 9 9	0 9 9 0 9 9	% % % % % % % % % % %	9
ON ORDER	-	ER SYST.	1620 3300 1130	220 1401	1620 1401 8090 360/40	1401	7044 1401 1620 1620 360/40	1105 360/30 1/3	1410 1620 1620 1620 1/3 360/30	1620
AND	CTL	COMPUTE	TOB	BUR 18M	TBM COC TBC	8		TBH		I B
INSTALLED		3	88070	88070	87106	87106	14214	27514	27607	Υ
ITEM I-A-4,5,6 COMPUTERS IN		INSTITUTION	NEW MEXICO STATE UNIVERSITY University Park New Mexico	NEW MEXICO STATE UNIVERSITY UNIVERSITY PARK NEW MEXICO	UNIVERSITY OF NEW MEXICO Albuquerque new mexico	UNIVERSITY OF NEW MEXICO Albuqueraue New Mexico	SUNY STATE UNIV AT BUFFALD BUFFALD NEW YORK	UNIV OF N C AT CHAPEL HILL CHAPEL HILL NORTH CAROLINA	N C STATE UNIV AT RALEIGH Raleigh north Carolina	NORTH DAKOTA STATE UNIVERSITY

1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 -4.5.6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

LEVE! 4 TYPE 1 CTL 1

				ı	:	•				
INSTITUTION		COMPUTER	FER SYST.	YEAR	TO BE (Replaced	LEASE	PURCH	вотн	1964.65 Avg.use Hrs/mo	
FARGO NORTH DAKOTA	58102									
THE UNIV OF NORTH DAKOTA GRAND FORKS NORTH DAKOTA	58201	18M 18M	1620 360/30	61 66	×	•			170	
BOWLING GREEN STATE UNIVERSITY BOWLING GREEN OHIO 43402	SITY 43402	18M	1620	62				•	300	
KENT STATE UNIVERSITY Kent Ohio	44240	IBM	1620 2200	65		•			350	
OHIO STATE UNIVERSITY COLUMBUS OHIO	43210	₩ ₩ ₩ ₩ ₩ ₩	7094 360/67	68	×	*			159	
GHIU UNIVERSITY ATHENS OHIO	45701	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	LGP 30 1620 360/40 360/44 360/20	66 66 95 67 68 67 68	×	•		•	20 600	
UNIVERSITY OF AKRON AKRON DHIO	44304	I B M	1620 205 360/40 1401	6 6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	×	* *			250	
UNIVERSITY OF CINCINNATI CINCINNATI OHIO	45221	18M 18M	1620 360/40	61 67			*		450	
UNIVERSITY OF CINCINNATI Cincinnati ohio	45221	0 0 0 2 x x	7040 1401 360/40	63 63				* *	200 200	
UNIVERSITY OF TOLEDO TOLEDO OHIO	43606	I 8M	1620	62			•		589	



1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 ITEM I-A-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

								AGE 11- 13
•	AVG. USE HRS/MO	2.0 2.0 3.0	300	200 100		7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	253	·d
	80TH			•				
	PURCH	*		•	•	* *		•
4	LEASE)	•	* *	•		* ***	•	•
LEVEL	TO BE REPLACED	×	×	×		××××		
/PE 1	YEAR	0 0 0 4 w t	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	7.4490 000	9 9 9	0000000 100400000	0 0 0 4 0 0	66 64 64
1 1 1	IER SYST.	1410 1620 7040	1410 1620 360/40 360/65	111-E 1620 1410 3300	1620 360/50 7	7074 7074 1401 1410 1620 360/67 360/50	1410 360/40 360/50	RP4000 360/30 1401
CTL	COMPUTER	100 I	1881 1881 1881 1881	ALW 18M 18M COC	181 181 100		100 E	CDC 18M 18M
		74074	73069	97331	97403	1 TY 1 6 8 0 2	02881	29631
	INSTITUTION	OKLA STATE UNIVERSITY Stillwater oklahoma	UNIVERSITY OF DKLAHOMA Morman Oklahoma	OREGON STATE UNIVERSITY Corvallis oregon	UNIVERSITY OF OREGON Eugene, oregon	PENNSYLVANIA STATE UNIVERSITY University park pa	UNIVERSITY OF RHODE ISLAND KINGSTON RHODE ISLAND	CLEMSON UNIVERSITY CLEMSON SOUTH CAROLINA UNIV OF SOUTH CAROLINA

1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 ITEM I-A-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

		CTL	-	TYPE 1	LEVEL 4			
INSTITUTION		COMPUTER	TER SYST.	YEAR	TO BE LEASE Replaced	PURCH	80TH	AVG.USE HRS/MD
COLUMBIA SOUTH CAROLINA	29208	H O H	1620 7040	61 65	•		•	
SOUTH DAKUTA STATE UNIVERSITY Broukings south dakota	17 57006	18M	1620	61	*			100
UNIVERSITY UF SOUTH DAKOTA VERMILLION SOUTH DAKOTA	57069	I BM	1620	63			*	270
UNIVERSITY OF TENNESSEE Knoxville Tennessee	37916	H C C C C C C C C C C C C C C C C C C C	162011 7040 1401	6 6 6 4 7 w	* * *			ი ლ გგა დ ფ 0
TEXAS A & M UNIVERSITY COLLEGE STATION TEXAS	77840		7094 1401 1401 1401 360/65	0 0 0 0 0 0 0 0 0 0	* * * * ×××	•		23 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
NURIH TEXAS STATE UNIVERSITY Dentun Texas	76203	IBM	1620	8			*	120
TEXAS TECHNOLOGICAL COLLEGE Lubbock texas	79409	X X X X	1620 162011 7040 1401	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	*		•	250 150
UNIVERSITY OF HOUSTON Houston Texas	77004	10X	1401	00	*			360
UTAH STATE UNIVERSITY Logan utah	84321	H H B K	1620 1401	61	*	*		300 175
UNIVERSITY UF VIRGINIA CHAKLOTTESVILLE VIRGINIA	22903	BUR	5500	9		•		20

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 ITEM I-A-4,5,6 COMPUTERS INSTALLED AND UN ORDER FOR RESEARCH AND INSTRUCTIONAL USES

		CTL		TYPE 1	LEVEL	4			7=470
INSTITUTION		COMPUTE	IER SYST.	YEAR	TO BE L	EASE	PURCH	вотн	
VIRGINIA POLYTECHNIC INST		TBM	S	62		*			510
LACKSBURG VIRGINIA	24061	IBM	1620	62		*			360
		IBM	0	62		*			30
		18M	4	9		*			100
		18M	40	64		*			120
IVERS		IBM	7040	64		*			250
SEATT F EASTINGTON	98105	18M	7094	64		*			250
] - -		18M	1401	63		*			100
WASHINGTON STATE UNIVERSITY		IBM	602	61	×		*		350
PULLMAN MASHINGTON	99163	IBM	1401	63	×	*			S
		IBM	360/67	99					
WIA UNIVERSIT		I BM	1620	62		*			215
GANTOWN WEST VIRGIN	26506	IBM	1401	63		*			4
		IBM	7040	64		*			128
ERSII		CDC	1604	61			*		
ON WISCONSIN	53706		160	61			*		
		IBM	1460	9		*			
		202	3600	64			*		
		202	924	64			*		
		BUR	2500	29					
UNIVERSITY OF WYOMING	82070	PHI	211	9			*		
	トニンジン								

1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 ITEM I-A-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

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	1 113		ITPE 2	LEVEL 2				
INSTITUTION	COMPUTER	ER SYST.	YEAR	TO BE LEASE Replaced	PURCH	901 H	1964-65 Avg. Use HRS/Mü	
SOUTHERN COLORADO STATE COL	IBM 162	1620	63			*	150	
E OF LIB ARTS Oma	104	1130	67					
ANGELO STATE COLLEGE SAN ANGELO TEXAS	18M	1620	63	•			160	
	18M 140	1401	63	•			100	
VIRGINIA INST OF TECHNOLOGY MONTGOMERY WEST VIRGINIA 25136	1 BM	1130	99					



164-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465

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	1404185 AVG.USE HRS/MD	400	300	10	160	450	100	140		150	85	179
	80TH											
	PURCH								•			
m	LEASE	•	*	•	*	•	*	•		* *	*	*
LEVEL	TO BE REPLACED		×	×		×	×	×	×	×		
TYPE 2	YEAR	63	64	63 66 67	65	61 65 67	63	0 0 4 0	62 68	64 68 68	9	63
CTL 1 TY	COMPUTER SYST.	IBM 1620	IBM 1460 IBM 360/40	IBM 1620 IBM 1130 IBM 1401	IBM 1620	IBM 1620 RCA 70/45 IBM 1620 HON 1200	IBM 1620 IBM 1401	18M 1620 18M 360/30	IBM 1620 IBM 360/50	IM 1620 IM 1620II IM 360/40	18M 1620	18M 1620
	COM	1 ^E 94132	33432 I	71201 IE	70402	70501 RC. 181 21212 HO	16 48858 IÉ	16 48197 IE	16 49001 16	11210 18M 18M	16 29730	1E 77340
	INSTITUTION	SAN FRANCISCO STATE COL San Francisco California	FLUKIDA ATLANTIC UNIVERSITY Buca katun Flurida	NTHEST LUUISIANA ST COL Monkue Luuisiana	STHESTRN LOUISIANA COL Hammünd Louisiana	UNIVERSITY SUUTHWESTERN LA. Lafayette, Luuisiana mokgan siatë cullege baliimore maryland	CENTRAL MICHIGAN UNIVERSITY Mount Pleasant Michigan	EASTEAN MICHIGAN UNIVERSITY Ypsilautia michigan	WESTERN MICHIGAN UNIVERSITY Kalamazoo michigan	CUNY BROOKLYN COLLEGE Brooklyn New York	WINTHROP COLLEGE ROCK HILL SOUTH CAROLINA	SAM HOUSTON STATE COLLEGE Hunisville Texas

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 A-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

		CTL	-	TYPE 2	LEVEL 3				
INSTITUTION	J	COMPUT	IER SYST.	YEAR	TO BE LE	LEASE	PURCH	B0TH	1904-05 AVG.USE HRS/MD
TEXAS COL ARTS INDUSTRIES KINGSVILLE TEXAS	78363	18M 18M	1620 360/40	61 68				•	200
OLD DUMINION COLLEGE Norfolk virginia	23508	18H	1620	49			•		105
		CTL	-	TYPE 2	LEVEL 4				
INSTITUTION	8	COMPUT	ER SYST.	YEAR	TO BE LE	LEASE	PURCH	80TH	1964-65 AVG.USE HRS/MO
GEORGIA STATE COLLEGE ATLANTA GEORGIA	30303	18X	7040 1620	6 5	×				100 375
UNIV. UF SUUTHERN MISSISSIPPI HATTIESBURG, MISSISSIPPI 3	PI 39401	168	1620	4	-	•			09
SUNY STATE UNIV BINGHAMTN BINGHAMTON NEW YORK	13901	16M 18M	1460 1130	9 9					190
SUNY AT ALBANY Albany new York	12203	COC	3100 1620 XI 3300	9996	××		*		250 100 100
NORIH CARULINA COLLEGE Durham, north Carolina	27707	IBM	1620	62			•		160
COLLEGE OF WILLIAM & MARY WILLIAMSBURG VIRGINIA	23185	18X 18X	1620 360/50	64	×	•			300

C465 1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF -4,5,6 COMPUTERS INSTALLED AND UN ORDER FOR RESEARCH AND INSTRUCTIONAL USES

1964-65 LEVEL 5 TYPE 2 ITEM I-A-4,

801H PURCH YEAR TO BE LEASE Inst Replaced COMPUTER SYST. IBM 1620 97207 PORTLAND STATE COLLEGE PORTLAND OREGON INSTITUTION

AVG.USE HRS/MO

350

C465 1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARS COMPUTER SCIENCES PROJECT CONTRACT NSF -4.5.6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

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	AVG. USI				100			150		9						170		120	240	300
	8CTH									•	•					•				
	PURCH				*													•		
ا ع	LEASE D							*			*							•	*	•
LEVEL	TO BE REPLACED							×											*	
YPE 4	YEAR	67	99	99	99	67	5	61	29	60	65	99	99	29	5	0.9	9 9	63	63	63
-	ER SYST.	1401	200	200	1620	1401	00	1620	1130	029	1440	077	1130	1130	•	1620	1401 360/50	1620	1620 1401	.620
CTL	COMPUTER	18M	HON	NOH		X 20 0		Œ	IBM			IBM	I BM	TBM		IBM	I B W	IBM	M M	184
		40404	12000	40470		56301	55987		39217		646 13		10050	68847	08625	•	12561	28607	28723	
	INSTITUTION	ILL TCHRS COL CHICAGO SOUTH	EASTERN KENTUCKY UNIVERSITY	EAR	T CLOUD STA	ZL	INONA MINNESOTA	AT	ACKSON MISSISSIPP	CENTRAL MISSOURT ST COLLEGE	G MISSOURI	NORTHEAST MISSOURI S T C	KEARNEY STATE COLLEGE	BRASK	TRENTON NEW JERSEY	MEXICO HIGH	SUNY COLLEGE NEW PALTZ NEW PALTZ NEW YORK	APPALACHIAN STATE TCHRS COL. BOONE NORTH CAROLINA	WESTERN CAROLINA COLLEGE CULLOWHEE, NORTH CAROLINA	SHIPPENSBURG STATE COLLEGE

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 1-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

		CTL	L 1	11	TYPE 4	1	LEVEL 3			
INSTITUTION		COMPUTER		SYST.	YEAR	TO BE I Replaced	E LEASE Ced	PURCH	B 01H	1404103 AVG.USE HRS/HD
SHIPPENSBURG PENNSYLVANIA	17257									
WEST CHESTER STATE COLLEGE West Chester Pennsylvania	19380	I 0 I	1620	c	9		•			100
		CTL		17	TYPE 4	LEV	LEVEL &			•
INSTITUTION		COMPUTER	TER S	SYST.	YEAR	TE BE L	E LEASE Sed	PURCH	80TH	1964 165 AVG. USE HRS/MD
ILLINDIS STATE UNIVERSITY Normal illindis	61761	E E	1620	0-	63		*			100
BALL STATE UNIVERSITY Muncie Indiana	47306	10 10 10 10 10	1620 360/	040	6 6	×	•			120
INDIANA STATE UNIVERSITY Terre haute indiana	47809	100 100 100	1620	730	63	×	•			300
EAST TEXAS STATE UNIV COMMERCE TEXAS	75429	18 18 18	1620	0	63 66	×	*			200

1964-65 COMPUTER SURVEY -- SOUTHERN REGIONAL EDUCATION ROARD COMPUTER SCIENCES PROJECT

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1964-65 COMPUTER SUR	SURVEYSOUTHERN	OUTH		REGIONAL		EDUCATION BOARD COMPUTER	BOARD CI	DMPUTER	SCIEN	SCIENCES PROJECT	
ITEM I-A-4,5,6 COMPUTERS INS	INSTALLED	ARO	S	ORDER F	FOR RE	RESEARCH	AND INS	INSTRUCTIONAL	NAL USE	ES NOT	5 6
		CTL		TYPE)E 5	LEVEL	7				
INSTITUTION	ပ	COMPUTER	IER SY	ST.	YEAR	TO BE L Replaced	LEASE	PURCH	80TH	1964-65 Avg.use Hrs/mo	
SUNY MARITIME COLLEGE New York New York	10465	COC 188	LGP 3 1130 1620	0	00 67 66			*			
CITADEL MILITARY COL OF S C CHARLESTON SOUTH CAROLINA	29409	1 B	1620		4		•			150	
VIRGINIA MILITARY INSTITUTE Lexington Virginia	24450	I BM	1620		63			*		176	
		CTL	-	TYPE	n s	LEVEL	m			4	
INSTITUTION	ວ _ົ	COMPUTER	ER SY	ST.	YEAR	TO BE E	LEASE	PURCH	B01H	1984-85 AVG.USE HRS/KD	
CALIFORNIA STATE POLY COL S Luis obispo california	93401	18M CDC	1620 G-15		63		*	•		150 81	
CAL ST POLY KELLO VOHRS Pomuna California	91766	I 8M	1620		63		*			80	
SOUTHEASTERN MASS TECH INST N DARTMOUTH MASSACHUSETTS	02747	BUR	205		6 9			•		100	
MONIANA CUL MINERAL SCI & TE	ТЕСН 59701	18	1620		4			•		140	
S DAK SCH MINES & TECH RAPLO CITY SUUTH DAKOTA	57701	E E	1620		61				•		
UNIV OF TEXAS AT EL PASO EL PASO TEXAS	78712	303 203	3100		60	×			•	200	

1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 ITEM I-A-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

	CTL		TYPE 5	LEVEL 4				
INSTITUTION	COMPUTER	TER SYST.	YEAR	TO BE LEASE Replaced	PURCH	B0TH	1904705 AVG.USE HRS/MO	
COLURADO SCHOOL OF MINES GOLDEN COLORADO	202	LGF 30 8090	6 6 8	*	•		40 200	
GEORGIA INSTITUTE OF TECH Atlanta Georgia	BUR BUR UNI	220 5500 5500TS 1108II	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	×	* *		300	
LOWELL TECHNOLOGICAL INST LOWELL MASSACHUSETTS 01854	184	1620	8		•		180	
NEWARK COL OF ENGINEERING NEWARK NEW JERSEY NEW MEXICO INST MINING & TECH SOCORRO NEW MEXICO		1620 1620II 360/40 360/44	0 0 0 0 4 0 0 0	•		•		
SUNY STATE U STONY BRK STONY BROOK NEW YORK 11790		7040 1401 360/30 1500 360/30	0 0 0 0 0 4 4 7 7 7	* * ××			0 0 9 0 8 0 8 0	
NOTITALI	CTL 1	. 1 TYPE	7 EAR	LEVEL 3 To be Leasf	Purch	T 0	1964-65 AVG, USF	
1TUTE 23220	H ON N	ω o	1NST 65 67	REPLACED	*		9	

1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 ITEM I-A-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

		CTL		TYPE 7	TEVEL 4	•			
INSTITUTION		COMPUT	TER SYST	T. YEAR INST	TO BE Replaced	LEASE	PURCH	B01 H	1964-65 Avg.use HRS/Mo
MEDICAL COLLEGE OF GEORGIA AUGUSTA GEORGIA	30902	18M 18M	1620 360/30	0 0 0 0	×	*			150
SUNY COLLEGE OF FORESTRY SYRACUSE NEW YORK	13210	168	162011	4		•			300
SUNY DOWNSTATE MED CTR Brocklyn new York	11203	1001 1001 1004	162011 1410 1440	65 65 65		* * *			176 176 176
SUNY UPSTATÉ MEDICAL CENTER Syracuse, new York	13210	18 M 18 M 00 C	1620 360/40 160A	63 67 67		•			368
MEDICAL COL OF VIRGINIA Richmond Virginia	23219	CDC	RP4000 1130	61			•		172

1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 -4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

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66	99	9
401	620	1620
10M 10M		10M
OR COL 66101		COLLEGE GR
KANSAS CITY KANSAS JUNI Kansas City Kansas	40RE JUNIOR COL 40RE MARYLAND	GRAND RAPIDS JUNIOR COL
	ANSAS CITY KANSAS JUNIOR COL IBM 1401 65 Ansas City Kansas 66101 IBM 360/20 66	S CITY KANSAS JUNIOR COL 18M 1401 65 X + . S CITY KANSAS 66101 18M 360/20 66 . 4ORE JUNIOR COLLEGE 18M 1620 66 . 4ORE MARYLAND 21215

F C465 FULLATION ROARD COMPUTER SCIENCES PROJECT

1964-65 COMPUTER SURVEYSOUTHERN	SOUTHE	RN REGIONAL		EDUCATION	BOARD	OMPUTER	SCIEN	BOARD COMPUTER SCIENCES PROJECT
ITEM I-A-4,5,6 COMPUTERS INSTALLED	D AND ON	ON ORDER	FOR	RESEARCH	AND INS	INSTRUCTIONAL	NAL US	ES
	CTL		TYPE 8	LEVEL	L 1			1964-65
INSTITUTION	COMPUTER	ER SYST.	YEAR Inst	TO BE L Replaced	LEASE D	PURCH	BOTH	AVG.USE HRS/MD
3. 3.	IBM	360/20	67					
MISSISSI MISSISSI	E E	1620	66					
ISOUTHE		1130	29					
JOPLIN MISSUURI AUBURN COMMUNITY COLLEGE AUBURN NEW YORK	18M 18M	1440	999					
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COLUMBIA BASIN COLLEGE Pasco Washington	IBM	1620	62		*			160



64-65 COMPUTER SURVEY -- SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

1964-65 COMPUTER	SURVEYSOUTHERN REGION	DUTHER		AL EDU	AL EDUCATION BOARD COMPUTER	DARD C	OMPUTER		SCIENCES PROJECT	8
ITEM I-A-4,5,6 COMPUTERS	INSTALLED	AND ON	ORDER	FOR RE	RESEARCH A	AND INS	INSTRUCTIONAL	NAL USE		
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WESTCHESTER COMMUNITY COLLEGE Valhalla new York	LEGE 10595	BUR 2	204	9			•		8	
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LOYOLA UNIVERSITY	4	18M 1	1620	63			*		09	
CREIGHTON UNIVERSITY OMAHA NEBRASKA	68131	18M 1	1130	99						
SETON HALL UNIVERSITY South orange new Jersey	01010	18M 1	620	63			•		100	
PRATT INSTITUTE BROOKLYN NEW YORK	11205	18M 1	1620	61		*			100	
VILLANDVA UNIVERSITY VILLANDVA PENNSYLVANIA	19085	TOW I	1620 1130	9 9				•	250 PAGE	11- 27

1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 N-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 ITEM I-A-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 ITEM I-A-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 ITEM I-A-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465 Item I-A-4,5,6 computers installed and on order for research and instructional USES

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SITY OF ROCHESTER			101	360/50	99					
TER NEW YORK	11 Y OF		18 M	7074	61			*	150	
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IONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT	CONTRACT NSF USES
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COMPUTER SURVEY SOUTHERN	INSTALLED AND ON
1964-65 COMPUTER	ITEM I-A-4,5,6 COMPUTERS INSTALLED

ALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES	,	1964-65 Computer Syst, Year to be lease purch both avg,use Inst Replaced	4850 COR 00	IBM 7072 62 X + 360 7706 IBM 1401 62 X + 360 IBM 360/30 66 TUC 1/3 66	IBM 1620 63 + 190	GEC 225 61 + 200 4106 BM 1710 63 + 159	IBM 1620 63 * 175	BUR 205 64 X + 12	CDC G=15 58	IBM 1620 63 X + 5219 CDC G-20 66	
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C465 1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF -4.5.6 COMPUTERS INSTALLED AND ON OXDER FOR RESEARCH AND INSTRUCTIONAL USES

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CTL	COMPUTER	CDC	E W			TRO COM COM	M M M	IBM	HE WILL	CDC
	ပ		19104	15213	15213	15213	37203	76706	77001	1
	INSTITUTION		UNIVERSITY UF PENNSYLVANIA Philadelphia Pennsylvania	UNIVERSITY UF PITTSBURGH Pitisburgh, Pennsylvania	UNIVERSITY OF PITTSBURGH PITISBURGH, PENNSYLVANIA	UNIVERSITY UF PITTSBURGH Pittsburgh, Pennsylvania	VANDERBILT UNIVERSITY Nashville Tennessee	BAYLUR UNIVERSITY Wacu Texas	RICE UNIVERSITY Houston Texas	SOUTHERN METHODIST UNIVERSITY

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C465 964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT NSF

ITEM I-A-4,5,6 COMPUTERS INSTALLED AND O	NSTALLED	AND	z	FOR RE	ORDER FOR RESEARCH AND INSTRUCTIONAL USES	AND INS	TRUCTIO	NAL US	ES
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FORTH TEXAS	76129	IBM	1401	64			*		120
		IBM	360/65	99					i !
		IBM	1800	29					
		IBM	360/20	29					
		IBM	1500	29					
MARGUETTE UNIVERSITY			1620	61		*			478
	53233	IBM	7040	65				*	243

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C465 1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF ITEM I-A-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

		CTL	~	TYPE 2	LEVEL 2			104445	
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BIRMINGHAM SOUTHERN COLLEGE Birmingham Alabama	35204	BUR	205	64		•		172	
RVEY MUDD CULLEGE		18M	1620	. 61		*		200	
CLAKEMUNI CALIFORNIA AUGUSTANA COLLEGE ROCK ISLAND ILLINDIS	61202	18M	1130	99					
BASH COLLEGE		IBM	1620	63		*		120	
AWFORDSVILLE INDIANA NTRE COL OF KENTUCKY	47933	TSH	FS1440	00					
DANVILLE KENTUCKY Augsburg Cullege Minneapolis Minnesota	40422 55404	BUR	1016	00					
LINDENWOUD CULLEGE ST CHARLES MISSOURI	63301	MCD		0 ¢.					
NEBRASKA WESLEYAN UNIVERSITY Linculn Nebraska	68504	IBM	1620	63		•		125	
ST PETERS CULLEGE Jersey City New Jersey Mount Union Cullege	07306	T B B C	LGP 30 1401 1620	00 67 67		•			
ALLIANCE UHIU Juniata college Huntingdon Pennsylvania	16653	E X	360744 162~			•		400	
LASALLE CULLEGE Philadelphia, pennsylvania	19141	1 BM	1620	4	•			100	
WEST VIRGINIA WESLEYAN COLLEGE Buckhannon West Virginia 26	EGE 26201	BUR	205	9		•		10	

1964-65 COMPUTER SURVEY -- SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

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REDLANDS CALIFORNIA TRINITY COLLEGE HARTFORD CONNECTICUT	06106	POP	€	99					
GALLAUDET COLLEGE Washington D C	20002	18M 19M	1620 360/30	62	*	•		150	
WHEATON COLLEGE WHEATON ILLINDIS	60187	I 8M	1620	63	•			30	
VALPARAISO UNIVERSITY		18M	1620	61	*			30	
VALFARAISU INDIANA Amherst College Amherst Massachusetts	01002	18M 18M	1401 1130	67 66					
EMMANUEL COLLEGE Boston, Massachusetts	02115	HIM		00				••	
ST JOHNS UNIVERSITY COLLEGEVILLE MINNESOTA	56321	I 8M	1620	63		•		300	
DRURY COLLEGE Springfield Missguri	65802	coc	LGP 30	09		•		9.0	
COLGATE UNIVERSITY Hamilton new York	13346	IBM	1620	63			•	125	
LONG ISLAND UNIVERSITY BROOKVILLE LONG ISLAND N Y	11548	1 0 M	1620 1620	0 *	••			06	
JOHN CARROLL UNIVERSITY Cleveland Ohio	44118	CDC GEC	LGP 30 215	61 66	×	•		200	

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 1-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES >ROJECT CONTRACT NSF C465 ITEM I-A-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

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PAGE II- 41

C465 964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CUNTRACT NSF 14,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES ITEM I-A-

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 ITEM I-A-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

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C465 1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF ITEM I-A-4,5,6 COMPUTERS INSTALLED AND ON ORDER FOR RESEARCH AND INSTRUCTIONAL USES

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III. List of Institutions in Sample Offering or Planning to Offer
 Degree Programs in "Computer Science"
 (Item I-B of Questionnaire)

Under the major heading, "Computer Science Instruction Programs," the institutions were asked to list degree planned to be offered "in the next three years." Except for the eleven institutions which requested not to be programs offered in "Computer Science, Information Science, Data Processing, etc.," during 1964-65 and those section contains the responses of the institutions in the sample. listed this

The institutions are arranged approximately alphabetically within state within name of academic program Science, Information Science, Business Data Processing, and Scientific Data Processing) or in one of twelve The programs were categorized as being in one of four major programs (Computer options in other academic areas. (usually department name).

The numbers of "students trained to use institution may appear in more than one program list. s repeated each time the institution is listed. A given computers" i

1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF

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ITEM I-8-1,2,3 COMPUTER SCIENCE INSTRUCTION PROGRAMS

NAME OF PROGRAM: COMPUTER SCIENCES

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465

ITEM I-8-1,2,3 COMPUTER SCIENCE INSTRUCTION PROGRAMS

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

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CONTRACT NSF

COMPUTER SCIENCE INSTRUCTION PROGRAMS ITEM I-8-1,233

NAME OF PROGRAM: COMPUTER SCIENCES

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465

ITEM I-8-1,2,3 COMPUTER SCIENCE INSTRUCTION PROGRAMS

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1964-65 COMPÚTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJÈCT CONTRACT NSF C465

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ITEM 1-8-1,2,3 COMPUTER SCIENCE INSTRUCTION PROGRAMS

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT C465

ITEM 1-8-1,2,3 COMPUTER SCIENCE INSTRUCTION PROGRAMS

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465 COMPUTER SCIENCE INSTRUCTION PROGRAMS ITEM 1-8-1,2,3

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C465 1-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT NSF

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465

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GEORGE WASHINGTON UNIVERSITY Washington D C

1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF

ITEM J-8-1,2,3 COMPUTER SCIENCE INSTRUCTION PROGRAMS

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ITEM I-8-1,2,3 COMPUTER SCIENCE INSTRUCTION PROGRAMS

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IV. Distributions of Computers by Strata and Groups of Strata (Item I-A of Questionnaire)

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Part A: By Strata

For example criteria given in Item I-A. The sample values are given for the installed computers but not for the For each stratum the sample frequency of occurence of each model of computer was determined for each of on-order systems or those to be replaced. For the latter two only population estimates are presented. line (IBM 1401) for stratum 1 1 4 is read as follows: the various the second

of these systems are to be replaced in the near future and another 3 are estimated to be on order with 10 purchased and 5 were partly leased and partly purchased. These machines were in use an average of 1 expected in 1965 and the other 2 in 1967. (Computations were truncated rather than rounded, hence universities offering the doctorate reported 54 IBM 1401 computers installed, 39 were leased, 293 hours per month during 1964-65. Based upon these figures an estimated 59 IBM 1401 systems were doctorate; 42 are estimated to have been leased, 10 purchased and 5 some of each. An estimated 19 being used for research and instructional purposes in 1964-65 in public universities offering the the numbers may not add up.) Public

Part B: By Groups of Strata

is identical to Part A except that sample values are not given since they would have no meaning Format



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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CUNTRACT NSF C465

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CONTRACT NSF 64-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT 19(

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD CUMPUTER SCIENCES PROJECT

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD CUMPUTER SCIENCES PROJECT

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1964-65 CJMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD CUMPUTER SCIENCES PROJECT

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

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964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465

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64-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

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Degree Programs in Computer Science and Related Areas by Level and Number of Students Being Trained

le values and population estimates are presented for each stratum and groups of strata containing a ; amount of information to warrant publication. Sempl sufficient

programs were reported in the sample of 12 institutions. The sampling ratio is 4 (= 48 : 12). Therefore, population 2 Associate and 1 Bachelor's degree is read as follows: for the strate are 8 Associate and 4 Bachelor's degree programs. The Business Data Processing line for stratum 1 2 2 estimates

Strata Identification:

<pre>II = Type of Control </pre>	LEVEL = Highest Level of Offering 1 = Two to Four Years beyond 12th Grade 2 = Bachelor's and/or First Professional Degree 3 = Master's and/or Second Professional Degree 4 = Doctor of Philosophy or Equivalent Degree 1s School 1s School sssional School
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* AT LEAST SOME SKILL IN USING ONE PROGRAMMING LANGUAGE



1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465

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* AT LEAST SOME SKILL IN USING ONE PROGRAMMING LANGUAGE

ERIC Full list Provided by ERIC

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF

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NO. STUDENTS TRAINED TO USE COMPUTERS:

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SOME SKILL IN USING ONE PROGRAMMING LANGUAGE * AT LEAST

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SOME SKILL IN USING ONE PRÜGRAMMING LANGUAGE

C465 SCIENCES PROJECT CONTRACT NSF -65 COMPUTER SURVEY -- SOUTHERN REGIONAL EDUCATION BOARD COMPUTER

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* AT LEAST SOME SKILL IN USING ONE PROGRAMMING LANCUAGE

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CTL 1 Sample Sample(Left

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ITEM I-B(1,2) COMPUTER SCIENCE IN NAME OF PROGRAM (USUALLY DEPT.)	INST	INSTRUCTION LEVEL	N PROGRAMS EL OFFERED 64-65 BACH. MAST. D	65 00CT.	ADDITIONAL ASSOC. BACI	7	LEVELS PLAMMED	IED ONET.
PUTER SCIENCES DRMATION SCIENCE INESS DATA PROCE ENTIFIC DATA PROCE SUBTOTAL NS IN: LEMATICS SUISTICS SUISTICS SUISTICS SUISTICS	2 2 2	19			1 5 11 61 12 11 14 77			
OUANTITATIVE ANALYSIS SYSTEMS ENGINEERANG MACHINE COMPUTE SYSTEMS ANALYSIS ADMINISTRATIVE SCIENCE MANAGEMENT SCIENCE INFORMATION SYSTEMS ENDUSTRIAL ENGINEERING STATISTIGS SUBTOTAL	~	67			14 77			

GRA		78	0	978
	1964=5	14		174
.	6-89	2606		0
COMPUTERS:	396	61	2295	91
USE RGR	ຸ້ນ	2831	6564	9395
INTS TRAINED TO UNDE	1964-5	503		•
STUGENTS		MAJORS		
0		: IENCE	(*) \$1	
I-8(3)		COMPUTER SCIENCE	ER MAJOR	TOTAL
ITES		X 0 0	T 0	

101 1689 1790

18 300 318

1968-9

ADUATE

1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465

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COLUMNS	TIONAL LEVELS PLANNED	1 1 5 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	1 1 2 2
VEL 3 SIZE 9 LATIONCRIGHT	ADDITI(
Z TYPE 1 LEVE E SIZE 9 PGP. T COLUMN) POPULA	N PROGRAMS EL OFFERED 64-65 Back. Mast. Doct		
SAMPLE SAMPLECLEFT	B(1,2) COMPUTER SCIENCE INSTRUCTION LEVEL OF PROGRAM (USUALLY DEPT.) ASSOC. B	PUTER SCIENCES DRMATIDM SCIENCES INESS DATA PROCESSING ENTIFIC DATA PROCESSING ENTIFIC DATA PROCESSING SUBTOTAL NS IN: HEMATICS CTRICAL ENGINEERING LIED SCIENCE GUISTICS TEMS & COMMUNIC SCIENCES TEMS & COMMUNIC SCIENCES TEMS ENGINEERING HINE COMPUTERS TEMS ANALYSIS INISTRATIVE SCIENCE AGEMENT SCIENCE ORMATION SYSTEMS LISTICS SUBTOTAL	TOTAL
	ITEM I-B Name o	O C C C C C C C C C C C C C C C C C C C	

	0	210	460	670
175	1968-9	210	460	670
GRADUATE			43	
	1964-5		6	43
	6	20	2930	3040
UATE	1968	20	2990	3040
INDERGRAD			720	720
5	1964-5		720	720
; ; ;		MAJORS		
		DMPUTER SCIENC	HER MAJORS	TOTAL

2061 22728 24789

C465 4-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT, NSF

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Ĭ,	AMP	CTL 2 Sample Sample(Left	~ W	SIZE COLUMN	TYPE 61 MN)		POPU	EVEL P. SI ULATI	4 IZE IONCR	65 IGHT		COLUMN)					
M I-B(1,2) COMPUTER SCIENCE	NST	INSTRUCTION LEVEL	CON	PROG	CRED 6		65	-	ADA	100	IONAL L	7	LEVELS	△ ⊢	LANNED	•	
MAME OF PROGRAM (OSOALL) DEFI.	T	2000		•		•		•	0	•		•		-		•	
R SCIEN			4	4	•	•	~	1			•	•	« C	6 0	« C	60	
DRMATION SCIENCE			~	~	Ŋ	Ŋ	4	4					~	8	N	N	
GUSINESS DATA PROCESSING	~	N		-	-	-						~ 3					
SUBTOTAL	~	~	~	-	12	22	11	11		-	2	~	10	10	10	10	
Z	1	1))			•							
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CAL ENG			~	N	N	Ci	~	~			-				-		
PLIED SCIENCE																	
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STEMS & COMMUNIC			~ `	-	-	-	0	cv									
ANTITATIVE ANALYSIS			~	**	N	~	¢=4										
STEMS ENGINEERING																	
CHINE COMPI					-										- -	~	
STEMS ANALYSIS																	
MINISTRATI																	
NAGEMENT SCI					N	~		-									
NFORMATION SYS					•									~			
STRIAL ENGI																	
TATISTICS					**						~	-					
SUBTOTAL			•	•	10	10	¢	œ			4	4	4	4	S.	S	
TOTAL	~	~	13	13	22	22	19	19	N	0	11	**	14	14	15	15	

ITEM	1-8(3)	0 2	STUDENTS TRAINED	TRAINED	TO USE	COMPUTERS: ADUATE			GRADUATE	IATE	
				1964-	S	1968-9	6=1	1961	·	1961	6-896
COM	COMPUTER S	TENCE	MAJORS	92	309	096	-	720	763	1945	200
OTHER	ER MAJORS (+)	3S (+)) }	17145	18173	46682	49482	9086	0	21442	2272
•	TOTAL	,		43	œ	47642	20 499	9776	10362		2478
	J			101	7		•	•) '}		

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1964-65 COMPUTER SURVEY--SOUTHERN®REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT NSF

L 3 Size 172 Fion(Right Column)	ADDITIONAL LEVELS PLANNED ASSOC. BACH. MAST. DOCT.	€ 4	1 3			
LEVEL POP. SI POPULATI	.65 DDCT•					
N	64-69 T.	m	m			
TYPE 55	MS ED 64 MAST.	-				
SIZE SECOLUMN)	PROGRAMS OFFERED ICH, MAS	-				
SIZ	PRO OF CH.	(4)	•			
~ W F	V CEL	-	-		·	
SAMP	RUCTION LEVEL					
A P L						
SAI	INS				S	
	IENCE Y DEP	و ق	5 ≥ - 1		NCE	
	لبا	Z	7 0	9	SCIE IS	ы s
	⋖(000 000 000 000	X	ERI		E E E E E E E E E E E E E E E E E E E
	UTE CUS	PERS	⊄	F	MACAL REPAL	K O O Z P Z
	COMPUTER Ram Cusu	M O A	A .	E E	M M M	E S C C C C C C C C C C C C C C C C C C
	2) COI	TER SCI		SALSO	FIC	TERRES OICE IN TERRES OICE NO TERRES
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	E M I N M M M M M M M M M M M M M M M M M	0 - 6	S 0PT	ב שׁבּ	N O N	NAZHHU

TOTAL

		CNOFRGRADO	UATE			GRADUAT		
	1964	ŵ	1968-9	6-	1964-5		1968	•
COMPUTER SCIENCE MAJORS	100	_	240	748			S	
THER MAJORS (1421	4433	3947	12314	113	5	360	1123
TOTAL	1551	4745	4187	13062	113	352	365	1138

SOME SKILL IN USING ONE PROGRAMMING LANGUAGE

* AT LEAST

1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT C465

CTL 2 SAMPLE SIZE SAMPLE(LEFT COLU	W 0	~	LEVEL POP. S POPULAT	L 4 SIZE 2 TION(RI	22 RIGHT	COLUMN)	S S				
B(1,2) COMPUTER SCIENCE INSTRUCTION PROGRAM LEVEL OFFERE OF PROGRAM (USUALLY DEPT.) ASSOC. BACH.	IS IAS	64-65 T.	5 DOCT•	AS	ADDITIONAL SSOC. BACH	ONAL L Bach.	LEVE	S	Z Z	ED	
OUTER SCIENCES DRMATION SCIENCES INESS DATA PROCESSING						2 -	2 -	_	•	_	
Ţ	-	-				m	6	_	_		_
FEMATICS TRICAL ENGINETRING TED SCIENCE	~	~	2			-					
SUISTICS TEMS & COMMUNIC SCIENCES TTITATIVE ANALYSIS											
SHENE COMPUTERS STEMS ANALYSIS AINISTRATIVE SCIENCE			r and								
JAMATION SYSTEMS JSTRIAL ENGINEERING					,		-	_	_	_	
UBTOTAL	8	~	2				-		_		
TOTAL	m	m	2			4	4	~	2		O.

1. _

			•					
	1964-	2	1968-9	6	1964-5		1968-9	•
COMPUTER SCIENCE MAJORS	3	;	5 6	28	14	15	54	26
OTHER MAJORS (*)	2021	2223	6175	6792	346	380	937	1030
TOTAL	2021	2223	6201	6820	360	395	166	1089

^{*} AT LEAST SOME SKILL IN USING ONE PROGRAMMING LANGUAGE

TYPE 5 LEVEL 4 SIZE 7 POP. SIZE 9 CGLUMN) POPULATIONCRIGHT COLUMN)	PROGRAMS L OFFERED 64-C5 ADDITIONAL LEVELS PLANNED ACH• MAST• DOCT• ASSOC• BACH• MAST• DO			
CTL 2 SAMPLE SIZ SAMPLECLEFT CGL	TEM I-B(1,2) COMPUTER SCIENCE INSTRUCTION PRO LEVEL OF NAME OF PROGRAM (USUALLY DEPT.) ASSOC, BACH.	ONDUTER NONENESS CIENTIFICATIONS IN TONS IN THEMATICATIONS IN	20 40 20 22 L O V V V V V V V V V V V V V V V V V V	TOTAL 1 1

		0		₩,	19
	ATE	1968-	20	1450	1520
	GRADUA		25	531	556
		1964-5	50	415	435
		0	128	15616	15744
COMPUTERS	DUATE	1968	10	12200	230
TO USE	UNDERGRADU/		4	8313	35
TRAINED		1964-5	35	6495	6530
STUDENTS			MAJORS		
0 N			LENCE	JORS (+)	
I-B(3)			PUTER SC.	THER MAJOR!	TOTAL
ITEM			COM	OTH	

PROGRAMMING LANGUAGE * AT LEAST SOME SKILL IN USING ONE

15

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101 1839 1940

C465 CONTRACT NSF 1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD CUMPUTER SCIENCES PROJECT

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428	
K LEVEL 1 POP. SIZE 42	ESTIMATES
TYPE X SIZE 82	LATION
CTL 1 SAMPLE	
COMBINED	

	ADDITIUNAL LEVELS PLANNED ASSOC, BACH, MAST, DOCT,		
428	DITIC	2 = × × × × × × × × × × × × × × × × ×	11
1 I ZE	A S S		
LEVEL POP. SI ESTIMATES	65 DOCT.		
X Z	1MS 2ED 64-65 MAST. D		
TYPE SIZE 8 PUPULATI	FE		
	ACH OF K		
CTL 1 INED SAMPLE	INSTRUCTION PHO Level uf .) Assoc, bach.	6 6	69
СОМВ	CUMPUTER SCIENCE	TION SCIENCES STORM SCIENCES SUATA PROCESSING SUATA PROCESSING TIC UNTA PROCESSING TICS CAL ENGINEERING SCIENCE STICS ATIVE ANALYSIS ENGINEERING COMPUTERS ANALESIS THATIME SCIENCE TION SYSTEMS ICS OTAL	
	ITEM I-B(1,2) NAME OF PRUG	CUMPUTER INFORMATI BUSINESS SCIENTIFI SCIENTIFI SCIENTIFI SCIENTIFI SCIENTIFI SCIENTIFI SCIENTIFI SCIENTIFI APPLIED S LINGUISTI SYSTEMS A ADMINISTA INFORMATI	TOTAL

	-
UATE	1968-0
UNDERGRAD	ur I
	1964=5
	UNDERGRADUATE

	1968-9		4	
GRADUATE	1964-5	•	1000	1078
JATE	1968-9	9454	14920	24374
UNDERGRADU	1964-5	2958	6839	2086
	!	DMPUT	Q E	LO L A L

* AT LEAST SOME SKILL IN USING ONF PROGRAMMING LANGUAGE

1968-9

CONTRACT NSF C465 1-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

2 1 Z E 9 2	00%	₹ .	₹	••			•
LEVEL 2 POP. SIZE ESTIMATES	65 DOCT•						
TYPE X SIZE 27 PUPULATIUN ES	KOGRAMS Uffered 6 H• Mast	4	4 4				4
CTL 1 Sample	INSTRUCTION P Level T.) ASSOC. BAC	vo (œ				
COMBINED	DEP	CUMPUTER SCIENCES INFORMATIUN SCIENCES BUSINESS DATA PROCESSING SCIENTIFIC DATA PROCESSING	SUBTOTAL OPTIONS IN: MATHEMATICS	į	SYSTEMS & COMMUNIC SCIENCES CUANTITATIVE ANALYSIS SYSTEMS ENGINEERING MACHINE CUMPUTERS	ADMINISTRATIVE SCIENCE MANAGEMENT SCIENCE INFORMATION SYSTEMS INDUSTRIAL ENGINEERING	STATISTICS SUBTOTAL

	GRADUATE
MAINED TO USE COMPUTERS:	UNDERGRADUATE
_ 10 =	UNDER
TRAINED	
STUDENTS	
NO.	
I=B(3)	
ITEN	

8

Ø

TOTAL

1964-5		
1968-9	200 4391 4591	
1964-5	60 1569 1629	
	COMPUTER SCIENCE MAJORS OTHER MAJORS (+) TOTAL	

* AT LEAST SUME SKILL IN USING ONE PROGRAMMING LANGUAGE

CONTRACT NSF C465

. 3 .IZE 188	ADDITIONAL LEVELS PLA ASSOC. BACH. MAST.
LEVEL POP. SI ESTIMATES	-65 DOCT.
SIZE 62 PUPULATION	PROGRAMS Uffered 64 CH. Mast.
COMBINED SAMPLE	TEM I-B(1,2) COMPIJTER SCIENCE INSTRUCTION I LEVEL NAME OF PRUGRAM (USUALLY DEPT.) ASSOC. BAC
	ITEM 1-B(Name of

NAME OF PRUGRAM (USUALLY DEPT.)	LEVEL ASSOC. BA	UFFERED 64-65 CH. MAST. DOCT.	ADI	DITIONAL LEVI DC. BACH.	LEVELS PLANNED	VED DOCT.
CUMPUTER SCIENCES		m	m	S.	9	
BUSINESS DATA PROCESSING SCIENTIFIC DATA PROCESSING	en:		œ	- 4		
ļ.	m	m	11	4	9	
MATHEMATICS ELECTRICAL FACINGED VAG				9 ≠3		
APPLIED SCIENCE						
SYSTEMS & CUMMUNIC SCIENCES						
				•		
MACHINE CUMPHTERS				m		
SYSTEMS ANALYSIS		•				
ADMINISTRATIVE SCIENCE		ım				
MANAGEMENT SCIENCE						
INFORMATION SYSTEMS						
INCUSTRIBL ENGINEERING						
SUBTOTAL		4		3		
TUTAL	m	æ	=	77	•	

COMPUTERS: Duate	1968-9
STUDENTS TRAINED TO USE COMPUTERS: UNDERGRADUATE	1964-5
D. STUDENTS	
I-B(3) N	
ITEM	

	1968-9	
GRADUATE	•	•
UATE	1968-9	1768 45869 47637
UNDERGRADI	1964-5	199 17001 17200
		COMPUTER SCIENCE MAJORS OTHER MAJORS (*) TOTAL

AT LEAST SUME SKILL IN USING ONE PROGRAMMING LANGUAGE

306

6786 7092

C465 CONTRACT NSF

> LEVEL 4 POP. SIZE TYPE X SIZE 123 COMBINED SAMPLE

132 ESTIMATES PUPULATION ADDITIONAL LEVELS PLANNED

BACH.

ASSOC.

DOCT.

LEVEL OFFERED 64-65

COMPUTER SCIENCE INSTRUCTION PROGRAMS

ITEM 1-8(1,2)

NAME OF

PRUGRAM (USUALLY DEPT.) ASSOC. BACH.

17 23 C S 47 4 39 **77** OB S 12 9 S COMMUNIC SCIENCES SCIENTIFIC DATA PROCESSING COMPUTER SCIENCES INFORMATION SCIENCES BUSINESS DATA PROCESSING ENGINEERING ALVSIS TIVE SCIENCE ENGINEERING VE ANALYSIS GINEERING SYSTEMS SPIENCE MPUTERS APPLIED SCIENCE MATHEMATICS LINGUISTICS SUBTOTAL CUANTITATIVE SYSTEMS ENG ELECTRICAL INFORMATIO INDUSTRIAL SYSTEMS AN ADMINISTRA MANAGEMENT OPTIONS IN: SYSTEMS & MACHINE

NO. STUDENTS TRAINED TO USE COMPUTERS: UNDERGRADUATE I-B(3) ITEM

2442 43343 45785 1968-9 GRADUATE 14434 410 14844 1964-5 89327 184507 1968-9 54310 944 54756 1964-5 ENCE MAJORS COMPUTER SCIE OTHER MAJORS

SUME SKILL IN USING ONE PROGRAMMING LANGUAGE AT LEAST

1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

ERIC

C465

CONTRACT NSF

260 COMBINED SAMPLE SIZE 59 POP. SIZE PUPULATION ESTIMATES

ITEM I-8(1,2)

ADDITIONAL LEVELS FLANNED ASSOC. BACH. MAST. DOCT. 1,2) COMPUTER SCIENCE INSTRUCTION PROGRAMS
LEVEL OFFERED 64-65
PRUGRAM CUSUALLY DEPT.) ASSOC. BACH. MAST. NAME OF

SCIENCES CUMPUTER

INFORMATION SCIENCES BUSINESS DATA PROCESSING SCIENTIFIC DATA PROCESSING

SUBTOTAL

OPTIONS IN:

MATHEMATICS ELECTRICAL E

ENGINEERING

APPLIED SCIENCE LINGUISTICS

CUMMUNIC SCIENCES SYSTEMS &

WUANTITATIVE ANALYSIS SYSTEMS ENGINEERING

CUMPIITERS SYSTEMS ANALYSIS MACHINE

ADMINISTRATIVE SCIENCE

INFORMATION SYSTEMS INDUSTRIAL ENGINEERING SEIENCE MANAGEMENT

SUBTOT

TOTAL

NO. STUDENTS TRAINED TO USE COMPUTERS: I-8(3)

ITEM

UNDERGRADUATE 1964-5

1968-9

GRADUATE

CUMPUTER SCIENCE MAJORS (*) DIHER MAJORS TOTAL

268 268

ME SKILL IN USING ONE PROGRAMMING LANGUAGE SU AT LEAST

*

.65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT 1964-

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CTL 2 TYPE X LEVEL 2 COMBINED SAMPLE SIZE 115 POP. SIZE 702 PUPULATION ESTIMATES

ITEM I-B(1,2) COMPUTER SCIENCE INSTRUCTION PROGRAMS LEVEL OFFERED 64-65

LEVEL OFFERED 64-65 NAME OF PROGRAM (USUALLY DEPT.) ASSOC. BACH. MAST. DOCI

DOCT. ASSOC. BACH. MAST. DOCT.

COMPUTER SCIENCES
INFORMATION SCIENCES
BUSINESS DATA PROCESSING
SCIENTIFIC DATA PROCESSING

SUBTOTAL OPTIONS IN: MATHEMATICS

ELECTRICAL ENGINEERING

APPLIED SCIENCE

LINGUISTICS SYSTEMS & COMMUNIC SCIENCES

SYSTEMS ENGINEERING

MACHINE COMPUTERS Systems analysis Administrative Science Management stience

MANAGEMENT SEIENCE Infürmation systems Industrial Engineering Statistics

TOTAL

SUBTOT

ITEM I-B(3) NO. STUDENTS TRAINED TO USE COMPUTERS:

UNDERGRADUATE 1964-5 1968-9 8876 8876

> 3513 3513

IENDE MAJORS S (4)

COMPUTER SC

OTHER MAJOR

TOTAL

282 282

783

1968-9

GRADUATE

1964-5

* AT LEAST SUME SKILL IN USING ONE PROGRAMMING LANGUAGE

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1964-65 CUMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

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	278	
LEVEL 3	POP. SIZE 27	ESTIMATES
TYPE X	SIZE 96	PUPULATION
CTL 2	SAMPLE	
	COMBINED	

	FIONAL LEVELS PLANNED BACH. MAST. DO	ς, ↔ ιν	m m			••	•
3 ZE 278	ADDITIC ASSOC.	₩.					
LEVEL POP. SI ESTIMATES	55 DOCT•						
× × ×	PROGRAMS OFFERED 64-65 CH· MAST.	m	m				
TL 2 TYPE MPLE SIZE 9 PUPULATI	TION L LEVEL C. BA	m	m				
COMBINED SAN	ITEM I-B(1,2) COMPUTER SCIENCE INSTRUCT L NAME OF PRUGRAM (USUALLY DEPT.) ASSOC	CUMPUTER SCIENCES INFURMATIUN SCIENCES BUSINESS DATA PROCESSING SCIENTIFIC DATA PROCESSING	SUBTOTAL IONS IN: ATHEMATICS	LECTR PPLIE INGUI	YSTEMS & COMPANTITATIVE /	MACHINE CUMPLITERS SYSTEMS ANALYSIS ADMINISTRATIVE SCIENCE MANAGEMENT SCIENCE	VOUSTRIAL ENC FATISTICS SUBTOTAL

·	1968-9	
GRADUATE	•	4 6 6 6
	1964-5	
OMPUTERS: Uate	1968-9	1392 18047 19439
TRAINED TO USE COUNDERGRAD	1964-5	312 6551 6863
STUDENTS		MAJORS
0N	;	SCIENTE DRS (+)
I=8(3)		OMPUTER SC Ther majur Total
ITEM	į	E II

TOTAL

SKILL IN JSING ONE PROGRAMMING LANGUAGE * AT LEAST SUME

2209 26089 28298

C465 1-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF

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LEVEL TYPE X N CTL

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	NAL LEVEL Bach. M	ω N	10	M on				₩ſΩ	15
E 137	ADDITIC		•	eri				••	N
LEVEL 4 POP. SIZ IMATES	DOCT.	~ 4	11	00	- 0 -		44	10	21
104 110N EST	MS ED 64-65 MAST.	K 9 =	14	N N	0		N	12	56
E SIZE PUPULA	N PROGRA EL OFFER Bach.	400	Φ	-8	~ ~	-		•	4
CIL Z D SAMPLE	INSTRUCTIO LEVI .) ASSOC.	8	N						≈
COMBINED	TEM I-B(1)2) COMPUTER SCIENCE INS NAME OF PROGRAM (USUALLY DEPT.)	R SCIENCES TIUN SCIENCES S DATA PROCESSING	SUBTOTAL	» H & º Z H ひ	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	COMPUTERS Analgsis	K Z H F	ICS OTAL	TOTAL

		1968			
	GRADUATE	1964-5	803	9	11593
MPUTERS	UATE	1968-9	1173	71890	73063
TRAINED TO USE CO	2	1964=5	353	28709	906
STUDENTS			E MAJORS	G	
I-8(3) NO.			PUTER SCIENDE	A A	TOTAL
ITEM I			COMPU	OTHER	-

* AT LEAST SOME SKILL IN USING ONE PROGRAMMING LANGUAGE

C465 CONTRACT NSF 1964-65 COMPLITER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

LEVEL 1 × TYPE CTL X

SIZE 688 S	ADDITIONAL LEVELS PLANNED ASSOC. BACH. MAST. DOCT.	7	78
COMBINED SAMPLE SIZE 141 POP. S PUPULATION ESTIMATES	INSTRUCTION PROGRAMS LEVEL OFFERED 64-65 [.] ASSOC. BACH. MAST. DOCT.	♦ ♦	69
BWOO	ITEM I-B(1,2) COMPUTER SCIENCE IN NAME OF PRUGRAM (USUALLY DEPT.)	CUMPUTER SCIENCES INFORMATION SCIENCES BUSINESS DATA PROCESSING SCIENTIFIC DATA PROCESSING SUBTOTAL OPTIONS IN: MATHEMATICS ELECTRICAL ENGINEERING APPLIED SCIENCE LINGUISTICS SYSTEMS & COMMUNIC SCIENCES QUANTITATIVE ANALYSIS SYSTEMS ACOMMUNIC SCIENCE MACHINE CUMPUTERS SYSTEMS ANALYSIS SYSTEMS	TOTAL

GRA		1000 1000 1078
	1964-5	
COMPUTERS: Duate	1968-9	9454 15188 24642
TRAINED TO USE CO	1964-5	2968 6839 9807
TEM I-B(3) NO. STUDENTS		COMPUTER SCIENCE MAJORS OTHER MAJORS (4) TOTAL
116		-

* AT LEAST SUME SKILL IN USING ONE PROGRAMMING LANGUAGE



101 1839 1940

1968-9

GRADUATE

CONTRACT NSF C465 1964-65 COMPUTER SURVEY -- SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

CTL X TYPE X LEVEL 2 COMBINED SAMPLE SIZE 142 POP. SIZE 794

	ADDITIONAL LEVELS PLANNED ASSOC. BACH. MAST. DOCT.		7
SIZE 142 PUP. SIZE PUPULATION ESTIMATES	PROGRAMS Uffered 64-65 CH• MAST• JOCT•	ं व	3 0
COMBINED SAMPLE	INSTRUCTION LEVE T.) ASSOC. B	ν _γ	&
	ITEM I-B(1,2) COMPI NAME OF PRUGRAM (COMPUTER SCIENCES INFORMATION SCIENCES BUSINESS DATA PROCESSING SCIENTIFIC DATA PROCESSING SCIENTIFIC DATA PROCESSING SCIENTIFIC DATA PROCESSING SCIENTIFIC DATA PROCESSING BUSTOR IN: MATHEMATICS ELECTRICAL ENGINEERING APPLIED SCIENCE LINGUISTICS SYSTEMS & COMMUNIC SCIENCE QUANTITATIVE ANALYSIS SYSTEMS ANALYSIS SYSTEMS ANALYSIS SYSTEMS ANALYSIS ADMINISTRATIVE SCIENCE MANAGEMENT SCIENCE INFORMATION SYSTEMS INDUSTRIAL ENGINEERING STATISTICS SUBTOTAL	TOTAL

	1968-9			•
GRADUATE			282	282
	1964-5			
UTEKS! E	1968-9	200	13267	13467
TRAINED TO USE COMPUTERS: Undergraduate	1964-5	09	5082	5142
STUDENTS TRAINED		MAJORS		
I-8(3) NO.		PUTER SCIENCE	OTHER MAJORS (+)	TOTAL
ITEM		Ö	10	

* AT LEAST SUME SKILL IN USING ONE PROGRAMMING LANGUAGE

783 783

1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

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466	ADDITIONAL LEVELS PLANNED SSUC. BACH. MAST. DOCT.	3 37 11 9 5	12 43 11	•• 3	6	•	4	12 47 12
PE X LEVEL 3 158 POP. SIZE IION ESTIMATES	64-65 .T. DOCT. A	m m	9					•
CTL X TYPE X ED SAMPLE SIZE 158 PUPULATION	STRUCTION PROGRAMS LEVEL OFFERED ASSOC• BACH• MAS	m	m ·			⊶ m	4	3 7
COMBINED	SCIENCE IN	CUMPUTER SCIENCES INFORMATION SCIENCES BUSINESS DATA PROCESSING SCIENTIFIC DATA PROCESSING	SUBTOTAL OPTIONS IN: MATHEMATICS	5 N J	STSTEMS & COMMUNIC SCIENCES CUDANTITATIVE ANALYSIS SYSTEMS ENGINEERING MACHINE COMPUTERS	SYSTEMS ANALYSIS ADMINISTRATIVE SCIENCE MANAGEMENT SEIENCE INFORMATION SYSTEMS INDUSTRIAL ENGINEERING STATISTICS	SUBTOTAL	TOTAL

, STUDENTS TRAINED TO USE COMPUTERS:	# P W = C
USE	A 0 7 0
10	TO THE
TRAINED	
STUDENTS	
ON	
1-8(3)	
ITEM	

	1968 -9 566 8739 9305	
GRADUATE	1964=5 23 2294 2317	
DUATE	1968-9 3160 63916 67076	
UNDERGRA	1964-5 511 23552 24063	
	COMPUTER SCIENCE MAJORS OTHER MAJORS (*) TOTAL	

* AT LEAST SUME SKILL IN USING ONE PROGRAMMING LANGUAGE

CONTRACT NSF 1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

C465

LEVEL & POP. SIZE ESTIMATES TYPE CTL X CUMBINED SAMPLE

ADDITIONAL LEVELS PLANNED 269 CUMPUTER SCIENCE INSTRUCTION PROGRAMS
LEVEL UFFERED 64-65 SIZE 227 POPULATION ITEM 1-8(1,2) NAME

Doct.	56	0	•	ı	36	•	-	•	-	•				-	•		-	-	•		~	43
MAST	48	'n	-	ı	50)	4	-	***	1								m		**	10	49
SSOC. BACH. MAST. DO	44	-	4		67		•									***	ı	-	٠,	+	10	59
ASSOC.	4		4	N	10	•	_	•												٧		11
nocT.	12	4			17	•	•	•		•	m	-					-			-	21	38
MAST	14	0	m	1	26	ļ	œ	æ	•••	-	N	0	•	•	•	•	8	l	-	•	50	55
васн.	හ	~	N		12		v	S			N	-	-	-	1				-		17	59
ASSOC.			rn		m	•																m
NAME OF PROGRAM (USUALLY DEPT.) ASSOC.	CUMPUTER SCIENCES	INFORMATION SCIENCES	BUSINESS DATA PROCESSING	SCIENTIFIC DATA PROCESSING	SUBTOTAL	OPTIONS IN	MATHEMATICS	ELECTRICAL ENGINEERING	APPLIED SCIENCE	LINGUISTICS	SYSTEMS & CUMMUNIC SCIENCES	BUANTITATIVE AMALYSIS	SYSTEMS ENGINEERING	MACHINE COMPUTERS	SYSTEMS ANALYSIS	ADMINISTRATIVE SCIENCE	MANAGEMENT SPIENCE	INFORMATION SYSTEMS	INDUSTRIAL ENGINEERING	STATISTICS	SUBTOTAL	TOTAL

GRADUATE 1954-5 5993 1968-9 STUDENTS TRAINED TO USE COMPUTERS! UNDERGRADUATE 662 1964-5 MAJORS COMPUTER SCIENBE OTHER MAJORS (+) TOTAL • ON 1-8(3)

* AT LEAST SUME SKILL IN USING ONE PROGRAMMING LANGUAGE



5318 80793 86111

CONTRACT NSF 1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT

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C465

	NNED	. 1000	26	0.	-	36		-	4 🕶	•	1				-			-	-		•	~	43
	LS PLA	-	59	īÙ		7		4	•	-									m)	•	11	76
		BACH.	81	N	•	60	u '	~	۰ م					m					•	1	-	15	101
X ZE 2219	ADDITI	A550C.	17			7 0 F	•	-	•													-	105
LEVEL POP. SI	-	000	12	₫		1.7	•	•	•		-	m	-	~				~				21	38
YPE X 669 Atiun es	AMS RED 64-6	n	17	12	m	66	J T	œ	.	-	-	N	~		-			~				56	61
SIZE PUPUL	PROGR L OFFE	A C	11	æ	•	6	•	10	Ś			N	~		-	-	ო			-		52	5
CTL X ED SAMPLE	TRUCTIO LEV				83	æ)																83
CDMBINED	I-B(1)2) COMPUTER SCIENCE	NAME OF FRUCKAM COSUALLY DEFI)	CIE	N SCIENCE	BUSINESS DATE PROCESSING	DATE TRUCESOLI	OPTIONS IN:	MATHEM!	ELECTRICAL ENGINEERING	-	ဟ	ပ	VE ANALYSIS	5	MACHINE COMPUTERS	AL. SIS	TIVE SC	Seienc	N SYSTEM	ENGIN	STATISTICS	_	TOTAL

	1968-9	53	807	861
GRADUATE	1964-5	1314	28800	30114
DMPUTERS: Uate	1968-9	18807	S	368975
TRAINED TO USE COM UNDERGRADUA	1964-5	4338	119092	123430
STUDENTS		MAJORS		
S C		SCIENCE	(+) 8	
I=8(3)		IMPUTER SC	MAJOR	TOTAL
ITEM		X 00	OTHER	

* AT LEAST SOME SKILL IN USING ONE PROGRAMMING LANGUAGE.

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Operating Expenditures by Cost Item, Number of Personnel, and Capital Expenditures. VI-A. Estimates by Stratum and Groups of Strata for Sources of Funds, (Items II-IV of the Questionnaire)

stratum, each grouping of strata by Type of Control and Highest Level of Offering, and all institutions values are presented first and the corresponding population estimates follow to their right on the same line. XX), the entries of Items II-IV of the questionnaire are summarized and the corresponding population Sample values are also presented in stratum summaries. For stratum estimates the sample estimates given. For each (Group XX

These institutions employed They have estimated that For FY65 the 106 public universities offering the doctorate (stratum 1 1 4, Page VI-A-3)srrnt an estimated 2051 persons in such activities during FY55 and expect to employ 3949 during FY69. Carexpenditures for computers in research and instruction are estimated to be \$30,983,000 for FY68 and \$29,667,000 for FY69. e.g. For FY65 the 100 public universities offer the universities and instructional uses. an estimated \$42,099,000 for computers for research and instructional uses. y will spend \$112,627,000 in FY69 for research and instructional uses. the

Strata Identification:

LEVEL = Highest Level of Offering	<pre>1 = Two to Four Years Beyond 12th Grade 2 = Bachelor's and/or First Professional Degree 3 = Master's and/or Second Professional Degree 4 = Doctor of Philosophy or Equivalent Degree 5 = Other</pre>
TYPE = Type of Institution	<pre>0 = Semiprofessional School 1 = University 2 = Liberal Arts College 4 = Teachers College 5 = Independent Technological School 6 = Theological or Religious School 7 = Other Independent Professional School 8 = Junior College</pre>
CIL = Type of Control	1 = Public 2 = Private

= Technical Institution

LEVEL 3 POP SIZE 4 POPULATION(RIGHT COLUMN)

SAMPLE SIZE SAMPLE SIZE SAMPLECLEFT COLUMN)

(THOUSANDS OF DOLLARS)

				PROJECTED 954	4		103	9	9	336)	32	24	•							
1968-69	100	22	D	1968-69 954	14		103		9	336)	32	244	•			13	19	151	60	99
PROJECTED 1	100	1725 1		ING PERIOD	N		15	42	20	127		25	S	312			13	19	151	103	266
-	4 4	321	5	REPORTI 111	N		15	42	70	127	•	25	20	312							
TOTAL	4 4	୍ କ ଅ)			PROJ.	12			29						E ETC.	-	4	-	4-1	11
A.		m m	•			69-6	12	~	40	26						FURNITURE	-	•	-		11
CAPITA						NUMBER	M I	י מו	25	en en						S5			18		255
-	4 4	308 3 315	-			2	M I	<u>ر</u>	62	33		N FYDFL				BUILDINGS			10		255
CURRENT	44	308 3	TURES BY COST			MAGES	Y PROG.	UFESSIUNAL		#AGES	u service	ADMIN AND GEN			TURES	ND PERIPH.	Į,	15	132	102	
E S	Y COMP. ACT. D GOVT	NG	RENT EXPENDITURES							TANTED AND WINDER	OTHER DIRECT COATS	COSTS GEN	TAL.		CAPITAL EXPENDIT	CUMPUTERS AN		15	132	102	
TTEM II BY SOV	1.PRIMARILY C 2.OTHER TOTAL FED G	8.INSTITUTION C. OTHER D. TOTAL	TTEM III CURA	1. EQUIPMENT RE 2. BUILDING SPA	3. OTHER M	•	ATACA CAL	ACC COURS	A TATAL CAL	-	6. DIENR DI				ITEM IV CAPIT	•		1965-66	1969-67	1967-68	1968-69

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	SAMPLECLEFT	LECLEFT COLUMN) CTHOUSANDS		OF DOLLARS			'	1	
	CURRENT	ENT	CAPIT	TAL	101	TOTAL	PROJECTED	:D 1968-69	
ACT.	4402 5809 10211	4810 6347 11158	2923 1949 4872	3194 2129 5324	7325 7758 15083	8004 8477 16482	25595 16812 42407	27969 18371 46341	
	15110 2615 27936	16511 2857 30528	4894 823 10589	5348 899 11571	20004 3438 38525	21860 3756 42099	51322 9336 103065	56083 10202 112627	
20 %	RENT EXPENDITURES BY CONTINUES	COST ITEM				REPORT 9369 352	TING PER]	100 1968-69 8 32729 4 1127 2 1623	PROJECTED 35765 1231 1773
WAGES		Ì	NUMBER	1968-	PROJ			• 040	7 7
11	ITY PROG.	356 356	618 25.5) }	1 5 4 0 6 0 4	7 C	-	952	828
	KUF ESSIUMAL		1077	70	86	15	3	795	869
35	AG	1877	2051	61	4	29	34	2613	55
2	ING SERVICE					15	14 14	100 K	5. 5.
COT COSTS	ADMIN AND	GEN EXPEN	,			3157	. 4 0	9 8399 6 76049	9178
11.	TAL EXPENDITURES COMPUTERS AND PERIPH. 7769 8469	AUILDINGS 1344	168		FURNITURE ET 362	395 395	TOTAL 9475	10354	
	7781	5047	5515	M	32	362	12500	13659	
	12994	6817	7449		634	692	19342	21136	
	9838	18121	19802	-	229	1343	28353	30983	
	18425	8380	9157	1908		2085	27149	29867	

GTL 1 TYPE 2 LEVEL 2 SAMPLE SIZE 12 POP. SIZE 48 SAMPLECLEFT COLUMN) POPULA;ION(RIGHT COLUMN) (THOUSANDS OF DOLLARS)

					PROJECTED AAA		y 1	106	180	112	400	36	•	1332					
1968-69	200	200	000	100	1968-69		7	27	45	58	100	•	. ev	333	**	384	132	900	768
PROJECTED 1	20	20	450	525 2	ING PERIOD	•		9	88	99	216	•	3 C	536	TOTAL 36	96	33	98	192
			544	089	REPORT!	,		15	22	17	24	~	2 6	134	•		Q.		•
TOTAL			136	170			PRO.J.	202	24	32	76				RE ETC. 24	*	12	40	8
AL			144	144			1968-69	1	•	•	19				FURNITURE 6	11	m	10	12
CAPITAL			36	36			MARTA	8	12	50	0#			_	S 9 %				
- L			400	136 536	ST ITEM		•		. •••		10		NJGXE NJC		BUILDINGS				
CURRENT			100	134	TURES BY COST			Y PROG.	ROFESSIONAL		AGES	G SERVICE	S ONA NTMOA	9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	URES ND PERIPH. 120	340	120	340	720
SOURCE	T Y COMP. ACT.	D GOVT	NO		NT EXP ITEM	SP/	AINTENANCE S and wages	AND UTILI	AND OTHER P	•		AMPUS COMPUTING SERVICE	→ }-	-	TAL EXPENDITURES COMPUTERS AND PERIPH. 30 120	92	30	85	180
	1.PRIM	2.0THER TOTAL FED	• •	C. UTHER D. TOTAL	—	2. BUILDIN	•	•			TOTAL	7=0		14014	ITEM IV CAPI Year 1964-65	1965-66	1966-67	1967-68	1968-69

CTL 1 TYPE 2 LEVEL 3 SAMPLE SIZE 18 POP. SIZE 60 SAMPLECLEFT COLUMN) POPULATION(RIGHT COLUMN) CTHOUSANDS OF DOLLARS)

						3626	589	4			9	943	1	. (23	1426	20					
1968-69	833 916	•	IN I	259 12063	•	1088	177	-		4	O	283	~	. (428	5	799	146	1189	263	3563
PROJECTED	250		•	3619	FRIO	1109	•	19		0	-	399	0		0	473	0	TOTAL. 240	•	357	169	1069
	139	139	4	153 3423	2	666) ()	•		26	96	120	272	. (142	•	•		•		_
TOTAL	42	45	ın d	240								93						E ETC.	36	66	106	163
			6 98	86 10					1968-69 Pi	3	0		<i>**</i>)				FURNITURE 11	11	30	32	64
CAPITAL			56	56					NUMBER	•	50	66	149					s 436	56	629	166	949
LN:	139	139	3063	133 3336	ST ITEM				X OX	9	0	30	45			GEN EXPEN		BUILDINGS 131	•0	258	20	285
CURRENT	42	4 %	6.6	1001	PENDITURES BY CO					TY PR	ROFESSIONAL		MAGES	S 57		ADMIN AND		TURES And Periph. 326	83	229	289	2449
SOURCE	LY COMP. ACT	ED GOVT	NOI		URRENT EXPEND	ENT REMTALS	PACE	TFNA	ND WAG	ND UTILI	OTHER	}	LARIES AND	PUS COMPUTI	IRECT C	T COSTS	TAL	ITAL EXPENDITURE COMPUTERS AND 98	25	90	87	735
11 87	A. PED. GUV 1.PRIMARIL 3.DILED	TOTAL F	STI	C. DIMER D. TOTAL	TTEM III CUR	. EQUIP	BUILD	. OTHER	. SALAR	A. SYST	B. ADMI	C. OTH	TOTAL	. OFF-CA	• OTHER	. INDIRE	10	ITEM IV CAPI Year 1964-65	1965-66	19-9961	1967-68	1968-69

							PROJECTED	N G	1 2 2 4 7	(O	O	4	0	30	9	310 4362					
	1968-69	440	099	3454	• 0		8	NO	37	,	396	468	342	1206	30	261	316 &362	'n	50	943	269	162
K 10.3	PROJECTED	940	099	3454	25			NU	13			134	100	325	-	00	57 957	TOTAL S	20	343	269	162
7 HT COLUKW)	_	10	10	955	992		ORT		2 2 3)	91	134	100	325	-	80	57 957	'n	•	•		~
4 Ze On(Rīg	TOTAL	10	10	55	10					ROJo	42	40	57	3				ETC.	20	23	137	20
LCVEL POP. SI POPULATI DOLLARS)	_4			35 9	35 9					1968-69 P	42	40	25	139 1				FURNITURE 5	20	23	137	25
7 7 0F	CAPITAL			35	35					NUMBER	0	13	20	42	•			S		300	250	20
CTL 1 TY SAMPLE SIZE SAMPLE(LEFT COLUMN) (THOUSANDS	FNT	10	10	920	957	COST ITEM				Š	⊙	13	20	42			GEN EXPEN	BUILDINGS		300	250	20
SAMPL	CURRENT	10	10	920	957	B¥					PROG.	ESSI		GES	SERVICE		OMIN AND	JRES ID PERIPH.		50	310	06
	SOURCE	ILY COMP. ACT.	FED GOVT	NOI		CURRENT EXPENDITURES	ST ITEM	ENT RENTALS	NG SPACE Matetenance	ES AND WAGES	S AND UTIL	AND OTHER	•	ALARIFS AND WA	MPUS COMPUTING	DIRECT COSTS	RECT COSTS GEN A Total	CAPITAL EXPENDITURES COMPUTERS AND P 5		20	310	06
	I 87	. FED. G 1.PRIMAR 0.TEFD		-	D. TOTAL	TTEM III CUI	1	• EQUI		SALA	A. SYSTE	ADMI	AC. OTHER	FOTAL	056	OTHE	7. INDIREC	TTEM IV CAP) Year 1964-65	1965-66	1966-67	1967-68	1968-69

					•			
	SAMPLECL	CTL 1 TYPE 4 SAMPLE SIZE 9 SAMPLECLEFT COLUMN) (THOUSANDS OF D	LEVEL 2 POP. SIZE 37 POPULATION(RIGHT DOLLARS)	37 IGHT C	COLUMN)			
ITEM II BY SOURCE A. FED. GOVT 1.PRIMARILY COMP. ACT. 2.OTHER TOTAL FED GOVT	CURRENT	CAPITAL	TOTAL	1	PRO	PROJECTED	1968-69	
-	••	4		4	_	00	326	
C. OTHER D. TOTAL	-	4		4		00	328	
ITEM III CURRENT EXPENDITURES BY COS COST ITEM 1. EQUIPMENT RENTALS 2. BUILDING SPACE	BY COST	ITEM		8	REPORTING	PERIOD	1968-69 35	PROJECTED 143
4. SALARIES AND WAGES	ď	NUMBER	1968-69 PROJ.					
48. ADMIN AND OTHER PROFESS	IONAL		C/ 					57
4 TOTAL SALARIES AND WAGES 5. DFF-CAMPUS COMPUTING SER	IVICE		~		-	4	0 N	119 8
6. OTHER DIRECT COSTS 7. INDIRECT COSTS GEN ADMIN AND TOTAL	AND GEN	EXPEN			-	•	14 80	57 326
ITEM IV CAPITAL EXPENDITURES VEAR COMPUTERS AND PERIPH, 1964-65		BUILDINGS	FURNITURE ETC.	• ຍ	1	TOTAL		
1965=66								
1966-67				•		-	•	
1967-68								

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1968-69

							PROJECTED	7 1	0		530 530	m (Ō,	Ō		9	476 4995					
	1968-69	748			5768			104	N	1	151	8	4	~		~	136	175	130	202		299
2	PROJECTED	24 8 8	239		1641		ING PERIOD	D 🕶	4 5	,	•	Ø	156	\		~	161	TOTAL 59	37	91	66	190
116 IGHT COLUMN)	- T	172	172	~	1515		ORT	Ħ (**) D Ħ	13		7		3			22	381	ທຸ	21	42	56	73
EVEL 3 SIZE LATION(R S)	101	4	46		431					69 PROJ.		/		-				ITURE ET 80	•	12	16	23
E 4 POPUS PO	CAPITAL	4	96	228	323					196	21	N	₫ (FURN				m
E SIZE 33 T COLUMN)	CAP	27	78	65	92	T				UMBER	14	0	11 38				Z	BUILDINGS 30 10		•		203
CTL SAMPLE SAMPLE(LEFT	CURRENT	*	7.7	866	1101	COST ITEM											GEN EXPEN			S	N	8
¥ S	and a	55	22	264	336	TURES BY				S	ry PROG.	ROFESSIONA		VAGES	NG SERVICE	COSTS	ADMIN AND	rures Ind Periph. 35	108	224	284	390
	302	COMP. ACT.	GOVT			ENT EXPENDI		KENIALS Space		D WAGE	ND UTIL	OTHER		M	2	_	S	ITAL EXPENDITURES COMPUTERS AND P 10	31	4	91	111
	H (U. GUVI Imarily Her	TOTAL FED		C. UTHER D. TOTAL	URRE	COST		OTHER MAI	SALARIES	YSTEMS	•	C. OTHER	S	. OFF-CAN	THER	• INDIREC	ITEM IV CAPITAL Vear 1964-65	196566	1966-67	1967-68	1968-69

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							635	23		29	153		253	•	* -	1067						
	1968-69	15	Ķ	1095	1110	94-840	635	23		67	153	(17)		•	t -	1067		17	•	21	6	64
C NH	PROJECTED 1	15	15	1095	1110		7 7 6	23		12	36	10	10		0 W	175	TOTAL	17	•	21	66	* 3
S Ght Column)				163	E 63		AEFOR 9	23		12	36	0	6		N 01	175	•	13	•	69	27	21
EL 4 Size 5 Tion(Right	TOTAL			183	183				0	14	œ	17	36				URE ETC.					
POP. POPULA DOLLARS)	0			17	11				1968-69	14	Ø		36				FURNIT	13	•	13	27	21
# W PO	CAPITAL			17	17				8		M	m	01					m			98	~
SAMPLE SIZE SAMPLE SIZE SAMPLECLEFT COLUMN) CTHOUSANDS	INT			166	166	COST ITEM			NUMBER	4	m	m	10			GEN EXTEN	BUILDINGS	m			36	8
SAMPL	CURRENT			166	166	B≺				Y PROG.	ROFESSIONAL		AGES	G SERVICE		AUMIN AND 6	URES ND PERIPH.	-		•	16	50
	SOURCE	Y COMP. ACT.	3 G0VT	Z.		RENT EXPENDI	I ITEM	© SPACE	TENENCE And wages	AND UTILI	AND OTHER PR		LARIES AND W	PUS COMPUTIN	IRECT COSTS	TOTAL	CAPITAL EXPENDITURES COMPUTERS AND PERIPH.			•	16	90
		1.PRIMARILY	2.OTHER TOTAL FED	•	C. UIHER D. TOTAL	TTEM III CURE	SOC FOLIPME	2. BUILDING	SALARIE	A. SYSTEM	AOMIN	. 07HE	DTAL	. OFF.	HEH		ITEM IV CAPII	vo	1965-66	1966-67	1967-68	1968-69

							PROJECTED))	•	27	80	5 6	8 5	•	-	180						
	1968-69			182	182		1968-69 53	•	~	23	24	25	N	•		150		123	N	150	N	~
ĝ	PROJECTED			152	152		NG PERIOD	,			€0		0 1	4	~	6	TOTAL	103	~	125	~	N
6 GHT COLUMN)		57	57	62	62 162		REPORTING 24	•	-		~	~ ;	5	4	•	•		8	~	•	~	8
EVEL 2 SIZE 6 LATION(RIGHTS)	TOTAL	48	8	25	152				PROJ.	~	v 1	- 1	•				URE ETC.			-		
POP POPU DOLLAR	'AL	25	25	m (62 123				1968-69	~	.	۰ م	?				FURNITURE	en .	8	16	8	8
L 1 TYPE LE SIZE 5 FT COLUMN) (THOUSANDS OF	CAPITAL	8	48	m (103				NUMBER	ı	m (N «	•				S			126		
CTL 1 SAMPLE SI SAMPLECLEFT CO	IN.			28	58	COST ITEM			N	•	m c	N (C	•		GEN EXPEN		BUILDINGS			105		
SAMPÌ	CURRENT			49	49	≯				PROG.	ESSIONAL	8	SERVICE				ES PERIPH.	120		4		
	SOURCE	ILY COMP. ACT.	FED GOVT	TION		URRENT EXPENDITU	CUST ITEM IPMENT RENTALS	SPA INTE	IES AND WAGES	AND		SALARIFS AND WAG	AMPUS COMPUTING	DIRECT COSTS	EC! CUSTS GEN AD! Total		COMPUTERS AND PERIPH.	100		₹		
	ITEM II BY	1. PRIMARILY 2.OTHER	TOTAL	B. INSTITUTION	D. TOTAL	TTEM III C	• Eou	2. BUILDING 3. OTHER MA	SAL	• SY	AC. OTHER	TOTAL	0FF-C	HER	RIONI	**	< −	χ.	1965-66	1966-67	1967-68	1968-69

	SAMPL	CTL 1 TYPE SAMPLE SIZE (SAMPLE(LEFT COLUMN) (THOUSANDS (POPULAT POPULAT DOLLARS)	EL 3 SIZE 7 TION(RIGH	7 GHT CDLUMN)	~ Z		
TTEM II BY SOURCE	CURRENT	⊢ N	CAPITAL	,,	TOTAL		PROJECTED	1968-69	
A. FED. GOVT 1.PRIMARILY COMP. ACT. 2.OTHER TOTAL FED GOVT	94	4 4			00	9 9	104 175	121 62 204	
B.INSTITU/ION C. OTHER D. TOTAL	124	9 4 4	332	3 3 4 8	96 32 158	100 37 184	356 553 33	415 25 645	
III.	8	COST ITEM				REPORT 33	ING PERIOD 38	1968-69	PROJECTED 378
DINER MAINTER		3					21	S	Ŋ
• SACATES END MAGES A. SYSTEMS AND UTILITY P	ROG.	E m (30 E 20 C 2	100 100 100 100	11 11	13	S.	89 4	75
• OTHER	331UMAL	V I S	N N		17	0 0	55 75	0 ~	- 60
TOTAL SALARIES AND WAG	ES Service	10		30	a S			198	231 2
OTHER DIRECT COSTS) •						4	23	C
• INDIRECT COSTS GE TOTAL	IN AND	GEN EXPEN				124	144	6 4 5	110 754
TTEM IV CAPITAL EXPENDITURE YEAR COMPUTERS AND 1964-65 32	ITURES AND PERIPH. 37	BUILDINGS	S	FURNITURE 2	JRE ETC.	-	TOTAL 34	. 36	
1965-66				-	•		-	~	
1966-67		340	396	86	100		426	497	
1967-68				~	•				
1968-69				•	•			•••	

				PROJECTED 1290 5	19	1	& & & = & &	1 ~ 6	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4))			٠	
	1968-69	610 470 1080	4316 471 5867	1968-69 1290 5	87	253	600 004	1371	4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	~ ~	687	159	1683	2520
~ Z	PROJECTED	610 470 1080	4316 471 5867	ING PERIOD 177 5	46	8		530	4 0 4 10 4 4 10 60		489	159	1683	2520
6 IGHT COLUMN)	AL.	0 0 0 0 0 1 4	404 314 1002	REPORT 177 5	94	4	350 135	M	4 0 4 0 4 0 0	٠.	18	34	17	27
LEVEL 4 POP. SIZE OPULATION(R LARS)	TOTAL	22 6 22 1 3 4 1	404 314 1002		-60 PRO.1.	23	9 0 5 1			FURNITURE ETC 7	16	34	17	27
. 5 . 00L	CAPITAL		4 4		4 9 9		95	17		FUR!	-		Ñ	=
SIZE 6 COLUMN) HDUSANDS O	CAF		4 4	T	NEMEN		33 29 29		Z	BUILDINGS 33			255	1001
GTL 1 TY SAMPLE SIZE SAMPLECLEFT COLUMN) CTHOUSANDS	CURRENT	0 0 0 0 0 0 0 0 0	362 314 960	COST ITEM					GEN EXPEN		-		255	1001
SA	9 9	221 284	362 314 960	ITURES BY		TY PROG.	AUT 603 TUNA	WAGES Ng Service	RECT COSTS RECT COSTS RECT COSTS GEN ADMIN AND G	TURES AND PERIPH. 2	470	125	1145	1492
	RCE	COMP. ACT		₽₩₽	NTENANCE And wages	AND UTILITY PR	בי אקרים י	RIES AND I	CCT COSTS	FAL EXPENDITURES COMPUTERS AND P 2	470	123	1411	1492
	BY SOURCE	1.PRIMARILY 2.OTHER TOTAL FED	NSTITUTION OTHER TOTAL	I CURRE COST QUIPMENT UILDING	THER MAI Alaries	SYS		 	NON	S 10	99-	-67	-68	69-
	TTEK #1	1.0.2 10.1	8. INS C. 01 D. 10	11EM 11 1. E 2. B		•	D C	4 W	9. 7.	ITEM IV YEAR 1964-	1965-66	1966-67	1967-68	1968-69

1964=≤5 computer survey=-southern regional education board computer sciences project contract NSF C465

LEVEL 4

TYPE 7

CTL 1 TYPE 9 LEVEL 1
SAMPLE SIZE 8 POP. SIZE 20
SAMPLE(LEFT COLUMN) POPULATION(RIGHT COLUMN)
CTHOUSANDS OF COLLARS)

					ECTED	52) 	ۍ د د			25	15		20						15
					PROJE				•	→	-				m						PAGE VI-A-15
1968-69	22	22	365	387	1968-69	<u>.</u>	0	}	N •		62	10	•	56		475	122	17		37	PAGE
PROJECTED !		•	146	155	ING PERIOD	00.	51	l I			62		~		165	TOTAL 190	64			15	
	392	392	247	640	REPORT	6 0 5	•	•	6		25		m	20	99		S			O	
TOTAL	157	151	66	256				PROJ.	1.7		22					RE ETC.				=	
	375	375	100	475				1968-69	•	- N	•					FURNITURE	N			5	
CAPITAL	150	150	04	190				5	•	-	~					100	10	0		12	
	17	17 1	147	165 1	TEM			NUMBER	ę	ז	m			EXPEN		BUTLDINGS 40	4	4		in	
CURRENT	~	~	26	99	S BY COST			,	706.	34.016		RVICE		N AND GEN		RES PERIPH• 375	20.	_		12	
	. ACT.				CURRENT EXPENDITURES B	ral S F	ANCE	MAGES	JTILITY PR	מיי יייי אייי	AND WAGES	COMPUTING SERVICE	costs	S GEN ADMI		ŠŽ	43 1	e		so.	
SOURCE	OVT ILY COMP.	FED GOVT	TION		URRENT EX OST ITEM	MENT MENT	MAINTENA	IES AND W	EMS AND C	3 2 2 02	SALAR	MPUS	DIRE	CT C	TOTAL	PITAL EXPENDIT COMPUTERS A 150	4				
Σ	A. FED. GOVT 1.PRIMARILY	2.OTHER TOTAL	INSTITU	0. TOTAL		1. EQUIP	OTHE	SALAF	SYS	OTHE	DTAL	0.66-0	OTHER	RON		ITEM IV CAP Year 1964-65	1965-66	1966-67	1967-68	1968-69	

COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465 1964-65

ERIC

				PROJECTED 197 13 37 145 116 371 35 800			
	1968-69	185 97 282	1262 80 1624	1968-69 197 110 110 371 122 100	o, e	198	4 77 8 24
2	PROJECTED 1	165 97 282	1262 1 80 1624 1	NG PERIOD 105 6 7 74 47 156 15 15 356	10TAL 30 90	198	477 824
9 IIGHT COLUMN)		8 0 4 N O N	216 35 396	REPORTI 105 105 14 156 15 15 356	.m .	56	S 6
VEL 3 SIZE Ationcr	TOTAL	65 60 145	216 35 396	69 PROJ. 18 19 36 73	FURNITURE ETC. 3 7	26	ις Φ
1 L POP POPU F DOLLAR	TAL		8 8	1968-6 18 19 36 73	FURN		
TL 2 TYPE PLE SIZE 9 EFT COLUMN) (THOUSANDS 0	CAPIT		98 86	NUMBER 7 9 9 9 9 19 19 15 35 35	.NGS	50	305
CTL 2 SAMPLE S SAMPLECLEFT C	INT	85 145	178 35 358	ST ITEM	BUILDINGS 1	'n	305
SAMPL	CURRENT	85 60 84 85	178 35 358	ES BY C ROG. SSIONAL S ERVICE IN AND	CAPITAL EXPENDITURES COMPUTERS AND PERIPH. 5 36 36	167	117
	SOURCE	COMP. ACT.	2	THE STANDARD TO ST	COMPUTERS 36	167	117
	*	FED. 1.PRIMA 2.OTHER TOTAL	B.INSTITUTION C. OTHER D. TOTAL	TTEM III CURRENT COST 1	TTEM IV CAPIT YEAR 1964-65	1966-67	1967=68

		SAMP	CTL 2 TYPE SAMPLE SIZE 61 SAMPLECLEFT COLUMN) CTHOUSANDS 0	TYPE LUMN) SANDS OF	POP POPU DOLLAR	EVEL 4 • SIZE LATIGN(R S)	65 IGHT COLUMN)	C N		
11 87	SOUK@E	CURREN	ENT	CAPIT	ITAL	101	AL	PROJECTED	1968-69	
A. FED. 60VI 1.PRIMARILY 2.OTHER TOTAL FED	r comp. Act. D gout	10160 73 6 5 17545	10826 7869 18695	2129 837 2966	2268 891 3160	12269 8222 20511	13094 8761 21855	22670 23111 45781	24156 24626 48783	
B.INSTITUTION C. OTHER D. TOTAL	N.	6217 2295 26057	6624 1 2445 2 27765 7	1753 2635 7354	1867 2807 7836	7970 4930 33411	8492 5253 35601	20753 7091 73625	22113 7555 78452	
111	CURRENT EXPENDITURES COST ITEM IPMENT RENTALS	84	COST TTEM				REPORT 9591	ING PERIC	00 1968-69 28386	PROJECTED 30247
	AINTENANCE AINTENANCE				•		V V	1 0	900	200
A SY	ES AND WAGES MS AND UTILITY PR	PROG.		NUMBER 27 455	0 -	200	30	51	59	60
. ADMIN	ල ල)FESSIONAL	m G	334 646	กเก	v 0	2899 2802	6	9 -	S IS
TOTAL	AND M	AGES	1346	1436	5	-	8	59	68	000
	PUS COMPUTING :	SERVICE					240	26	17	13
INDIA	ECT COSTS GEN A	IN AND	GEN EXPEN				2982 26079	3177	5919 60461	6307 64425
ITEM IV CAPI YEAR 1964-65	CAPITAL EXPENDITU COMPUTERS AN 3160	ITURES AND PERIPH. 3367	BUILDINGS 1483	1580	FURN	FURNITURE ET	6. 272	T0TAL 4899	5220	
1965-66	5364	5737	2311	2462	ž	365	386	8060	8588	
1966-67	1969	8491	4081	4348	51	577	614	12627	13455	
1967-68	3476	3703	47.67	5079	36	393	418	9636	9202	
1968-69	7191	7662	5412	5766	195	·	297	13164	14027	

		SAMP	CTL 2 TY SAMPLE SIZE SAMPLE(LEFT COLUMN) (THOUSANDS	TYPE 3	2 LEV POP. POPULA F DOLLARS)	EL 2 Size Tion(R	508 IGHT COLUMN)	2		
	SOURCE	CURRENT	ENT	<u> </u>	FAL	TOTAL		PROJECTED	1968-69	
1.PRIMARILY	COMP. ACT	•	•	44	275	4	275	170	1066	
2.OTHER TOTAL FED	G0VT		~	44	275	4 ∴ ₹	2 9 2	170	1066	
B.INSTITUTION C. OTHER D. TOTAL	Z	171	1110 2	243 60 347	1524 376 2176	420 61 526	2634 382 3298	440 100 710	2759 627 4452	
ITEM III CURRENI	RENT EXPENDITURES	8	COST ITEM				REPORT	•	·	
•	<u>د ليا نه</u>						. M C	269	5	928
	A S C S C S C S C S C S C S C S C S C S	NCE NCE		٥	046401	0	•	20	16	100
A SYSTEM		TY PROG.		12 12	9	-	20	125	41	257
ADMIN	OTH	ROFESSIONAL		6	•	20	5 6	163	72	5
THE				56	24	150	32	200	2	439
TOTAL	SALARIES AND WAG	WAGES	14	87	38	m	78	489	183	4
	TITUMED SOU	NG SERVICE					•	•		C
THE	COSTS COSTS	ONA NT	SEN FYDER				21	131	# C *	213
	AL.						179	• 0	436	2734
ITEM IV CAPIT YEAR 1964-65	CAPITAL EXPENDITURES COMPUTERS AND PER 5 280 1756	TURES AND PERIPH. 1756	BUILDINGS 42	263	FURNITURE 25	etc 1	5. 6.	TOTAL 347	2176	
1965-66			CV	12	-		•	m	18	
1966-67	45	282			14		87	29	370	
1967-68	256	1605	04	250	61		91	309	1937	
1968-69	270	1693			•		25	274	1718	

ERIC Peril Text Provided by EIIIC

	69-			968-69 PROJECTED 989 3092 5 15 16 50	319 997 343 1072 229 716 891 2786 158 494 424 1325		***	1710	944	6983
	.D 1968-6	1404 394 1798	10904 2367 15070	1				que		•
COLUMN	PROJECTED	449 126 575	3487 757 4819	TING PERI 1075 9	131 1531 1531 1531		142	547	270	2233
172 IGHT COLI	_	181 193 193	1613 847 2655	REFORT 344 3		.	0	22	37	509
EL 3 SIZE 1 TION(RI	TOTAL	8 4 S	516 271 849		780J 115 168 394	ETC		•-		Ň
POP POPULATION	AL	125 125	156 475 756		1968-69 37 35 54 126	FURNITURE 17	13	24	12	29
mio p	CAPITAL	0 0	152 242		BER 37 37 67 162	S 59	100	150		1344
CTL 2 TYP SAMPLE SIZE 5 SAMPLE(LEFT COLUMN) (THOUSANDS	ENT	56 68 68	1457 372 1898	CDST ITEM	NUMBER 12 12 28 28 52 16 52 16	BUILDINGS 19	32	4		430
SAR	CURRENT	22 4 2	456 119 607	∞	PROG. ESSIONAL ES SERVICE AIN AND	PENDITURES Ters and Periph. 63 197	303	1485	908	5428
	URCE	COMP. ACT.	Z	ENT EXPEN ITEM T RENTALS SPACE INTENANCE	AND WAGES AND UTILI ND OTHER P ARIES AND US COMPUTI COSTS GEN	AL AL EX COMPU	26	475	253	1736
	TEM II BY SO	A. FED. GOVI 1.PRIMARILY CONF 2.OTHER TOTAL FED GOVI	B.INSTITUTION C. OTHER D. TOTAL	III CURR COST EQUIPMEN BUILDING	A SYS A SYS B ADM C OTH TOTAL OFF	5 🛱	1965-66	1966-67	1967-68	1968=69

		C1 SAMF SAMPLECLE	CTL 2 TY SAMPLE SIZE LECLEFT CDLUMN) CTHOUSANDS	TYPE E 20 UMN) ANDS GT	2 LE POP. POPUL DOLLARS	VEL 4 SIZE ATION(RIO)	22 GHT COLUMN)	C 2 I		
	JURCE	CURRENT	L N L	CAPIT	Ä.	TOTAL	هـ	PROJECTED	1968-69	
A. FED. GOVT 1.PRIMARILY 2.OTHER TOTAL FED	GOVT ARILY COMP. ACT. R FED GOVT	166 89 255	182 97 280	004	4 4 0 4 4	5 5 5 5 5 5 5 5 5	622 727	527 338 65	579 371 951	
B.INSTITUTI(C. OTHER D. TOTAL	NOI	612 71 936	673 78 1031	208 140 48	2 T S 2 S S 2 S S	820 211 1686	9 9 1 9 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8	1906 256 3027	2096 281 3329	
TTEM III CURR COST 1. EQUIPMEN 2. BUILDING	RRENT EXPENDITURE ST ITEM ENT RENTALS NG SPACE	JRES BY CO	JST ITEM				REPORT 237 59	ING PERIOD 260 64	1968-69 879 116	PROJECTED 966 127
SALART	LINIENANCE Par Maren		Z	a sanin	07-4701	PROLL	7	7	→	V
SYSTE	AND UTILITY IND OTHER PROF	PROG. FSSIONAL	17.9	6 4	4 -	194	139	152	358 215	393 236
OTHER		u Le	61	67	100	9 0 0 0	160	176	10 0	~ C
OFF-CA	US COMPUTING	SERVICE	3	7	7	1	D		W CD	O
	COSTS TS GEN	IN AND	GEN EXPEN				138 938	86 151 1031	156 363 2543	173 399 2797
TTEM IV CAPITAL E Year Comp 1964-65	COMPUTERS AND PERIPH. 694 763	RES) PERIPH. 763	BUILDINGS 12	s 13	FURNITURE 42	URE ETC.	9	TOTAL 748	822	
1965-66	4	40	56	28	13	_	14	69	16	
1966-67	=	12	802	882	12		13	828	106	
1967-68	142	156	109	119	21		£	272	662	
1968-69	242	266	120	132	22		24	384	422	

Σ	CTL SAMPLE SAMPLECLEFT (T	CTL 2 NMPLE S (LEFT C (THO	TL 2 TYPE 4 PLE SIZE 8 EFT COLUMN) CTHOUSANDS OF D	E 4 LEVE 8 POPULAT OF DOLLARS)	SIZE BITION(RIGHT	כסרת	JECTED	1968-69	
FED. GO. PRIMARI OTHER				ı					
B.INSTITUTION C. OTHER D. TOTAL	· • • •	82	• •	o o	6 7	10	116	116	
I CURRENT (COST ITE OUIPMENT REI UILDING SPA(BY COST	116		,		REPORTING 30 4 1	NG PERIOD 30 4	1968-69 40 4	PROJECTED 40 4
• SALARIES AND WAGES A. Systems and Utility Pr A. Admin and Other Profess	106. STONAL	Z (V)	NUMBER 2 2	1968-69	PROJ.	15	15	30	30
OTHER OTHER OTAL SALARIES AND WAGES OFF-CAMPUS COMPUTING SE OTHER DIRECT COSTS INDIRECT COSTS GEN ADMI	ES SERVICE MIN AND GEN	2 A EXPEN	N ◀	m •o	m v	23 - 1 - 20	23 - 7 - 20	141114 140009	14111 99000
L EXPENDITURE Omputers and	S. Periph.	Buildings 4	S S S	FURNITURE 5	ETC.	•	TOTAL 9	•	
1966-67 1967-68 1968-69		m	M	'n		v		•	

	SAMPL	CTL 2	S C E	5 LEV POP. FOPULA FOLLARS)	EL 2 Size Tion(Ri	14 GHT COLUMN)			
TTEM II BY SOURCE A. FED. GOVT	CURRENT	-	CAPITAL	TAL	TOTAL	9 0 0	PROJECTED 1	1968-69	
FED GOVT	66	8 8			100	មួយ	31	9 9 9 9	
. INS	23	64	4	11	27	75	53	81	
OTAL	42	117	4	11	9 4	128	09	168	
III CUR COS • EQUIPME	8	COST ITEM				REPORTING 12	PERIOD 33	1966-69	PROJECTED 44
BUILDING SPACE OTHER MAINTENANC					0	8	1	m	•
· SALARIES AND WAG	600		UMBER	1968-69	r K	•	=	ď	4.6
. ADMIN AND OTHER	PROFESSIONAL			- €	N 00	* •0	55	`=	0 0
C. OTHER	656		110	iv o	6 6 6	∽ <u>~</u>	- K	10 26	2 S
OFF-CAMPUS COMPUTIV	4G SERVICE		•	•	}	•	3)	
. OTHER DIRECT COSTS						m	•	S	14
• INDIRECT COSTS GEN TOTAL	AIN AND	GEN EXPEN	2			42	117	60	168
ITEM IV CAPITAL EXPENDITUR YEAR COMPUTERS AND 1964-65 4	TURES And Periph. 11	BUILDINGS	SONI	FURNITURE	URE ETC.	—	TOTAL 4	11	
1965=66	~	-	8				N	'n	
1966-67	0						•	N	
1967-68 5	14						W FII	14	
1968-69								PAGE	PAGE VI-A-22

	69-						968-69 PROJECTED 101 121			6	~	1 0	7 15	-	~ → {	43 51 304 364	128	•		•	-
	1968-6	30	36		366	,	~										~				
C N M	PROJECTED	25	30	235	305		ING PERIOD 36			18	04	19		13		166	TOTAL 107	₫	**	•	
COPUMN)		63	63	231	8	1	REPORT 3	, m	◆	15	40			11		139					
RIGHT	TOTAL			N	0		DE.		•	•							ETC.	#	•	m	
FL 3 SIZE TION(1	53	53	£61	246				PRO 1		~	19									
S LEV POPULA POLLARS)	ITAL	63	63	64	128				04-440+) 	•	16					FURNITURE 1	•	~	6	
TYPE : OLUMN) USANDS OF	CAPII	67 LJ	53	54	107					6	.	•	14				S				
CTL 2 TYPE SAMPLE SIZE E(LEFT COLUMN) (THOUSANDS (-			166	166	ST ITEM			2	z m	4	N.	12			GEN EXPEN	BUILDINGS				
SAMPLE	CURRENT			139	139	IRES BY COST				PROG.	ESSIONAL			SERVICE		O Z	ES PERIPH. 127	ю		•	
	Y SOURCE	GOVI RILY COMP, ACT.	FED GOVT	TUTION		RREN	COST ITEM PMFNT RENTALS	INGS	MARA	EMS AND UTILITY	N AND DTHER PROF	ER	SALARIES AND WAG	CAMPUS COMPUTING	R DIRECT COSTS	RECT COSTS GEN TOTAL	CAPITAL EXPENDITURES COMPUTERS AND PERIPH. 5 106 127	m		I	
	TTEM II B	A. FED. GOVI 1.PRIMARILY	Z.UIMER TOTAL		D. TOTAL	TTEM III	FOUT	BUIL	OTHE SALA	SYS	0	. 01	TOTAL	5. OFF	I	7. IND	ITEM IV C. YEAR 1964=65	1965-66	1969-67	89-1961	1968-69

ERIC AFUIT TEAST PROVIDED by ERIC

	69			66-69 PROJECTED 83 1635 43 106 464 555 464 596 314 403 1241 1595 411 528 43 43 411 528 568 730 3652 4695	13	741	986	561	92
	1968-69	1465 430 1896	3972 218 6667	6	~	_	•	•	130
C NH	PROJECTĘD	1140 335 1475	3090 170 4735	1NG PERI 975 33 287 287 273 273	T07AL 88	577	169	437	1083
RIGHT COLUMN)	TOTAL	747 75 55 5	2017 115 2908	AEPURT 759 200 210 210 210 210 210 210	ETC. 11	8	62	73	203
LEVEL 4 DP. SIZE PULATION(ARS)	101	233 370 603	1569 90 2262	8 69 PRO J 8 82 85 85 85 809 809 809	FURNITURE E	30	6	57	158
s Po F DOLL	PITAL		151	2 0 0 4 10 6 6	.	m	212	263	912
E SIZE 7 T COLUMN)	CAP		110	A NUMBER 39 25 25 25 11 142	BUILDINGS		Ñ	Ä	•
N N N N N N N N N N N N N N N N N N N	CURRENT	299 475 375	1865 83 2724	ST ITE	_	m	165	205	710
SAMPLE	CUR	233 370 603	1451 65 2119	PROG. ESSIONA ES SERVICE MIN AND	PENDITURES TERS AND PERIPH. 79	689	713	224	276
	JURCE	GOVT IRILY COMP. ACT. ? FED GOVT	Z.	ENT EXPENDI ITEM T RENTALS SPACE INTENANCE AND WAGES AND UTILIT ND OTHER PR ARIES AND W US COMPUTIN RECT COSTS AL	AL EX COMPU	536	558	175	215
	•	FED. 1.PRIM/ 2.OTHER TOTAL	B.INSTITUTION C. OTHER D. TOTAL	11EM III CURRI 2001PMEN 2001PMEN 300THER MA 400THER MA 400THER MA 400THER 400THER 500FF-CAMPI 70 INDIRECT	ITEM IV CAPIT YEAR 1964-65	1965-66	1986-67	1967-68	1968-69

COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465 1964-65

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	• .		PROJECTED 56 15 11 109 223					
	1968-69	617	1968-69 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	37	37	m	m	393
S.	PROJECTED 1	163	ING PERIOD 49 11 15 30 68 11 147	TOTAL 10	10	-	-	104
3 4T COLUMN)	_	165	AEPORTING 13 3 4 18 18 39		_	m	m	••
L 2 1ZE 53 ION(RIGHT	TOTAL	0 0	PROJ. 3	RE ETC.	11	•••	•••	15
LEVEL POP. SI POPULATI DOLLARS)		37	1968-69 2 3 3	FURNITURE	m	-	-	•
	CAPITAL	10	8ER 3	37	11			
CTL 2 TYPE SAMPLE SIZE 14 SAMPLECLEFT COLUMN) CTHOUSANDS O	L X.	147	COST ITEM NUMBER 1 2 3 3 3 3 3 5 6 6 6 6 7 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8	BUILDINGS 10	m			
SAMPL	CURRENT	6 6 6	ES BY C SSIONAL S ERVICE IN AND	RES D PERIPH.	15			378
	SOURCE DVT ILY COMP. ACT.	NOIL	TAN AN ANTENTANT OF THE NAME O	CAPITAL EXPENDITURES COMPUTERS AND PERIPH.	4			100
	TTEM II BY SOU A. FED. GOVT 1.PRIMARILY 2.OTHER TOTAL FED	R.INSTITUTION C. OTHER D. TOTAL	1. EQUIPM 2. BUILDI 3. DTHER 4. SALARI 4A. SYSTE 4B. ADMIN 4C. DTHER 5. OFF-CA 7. INDIRE	ITEM IV CAP Year 1964-65	1965-66	1966-67	1967-68	1968-69

13 GHT COLUMN)	L PROJECTED 1968~65	128 364 430 50 59 128 414 489	REPORTING PERIOD 1968-69 PROJECTED 22 25 96 113 4 4 109 128 2 2 7 8	23 23 25 55	4 - W - W - W - W - W - W - W - W - W -	TOTAL		
7 LEVEL 3 POP. SIZE POPULATION(RIC DOLLARS)	AL TOTAL	109		1968-69 PROJ. 9 10 7 8	23 27 27	FURNITURE ETC.		
CTL 2 TYPE 1 SAMPLE SIZE 11 SAMPLECLEFT COLUMN) (THOUSANDS OF	RENT CAPITAL	128 128	COST ITEM	NUMBER 5	1 Gen expe	BUILDINGS		
SAMP	ITEM II BY SOURCE A. FED. GOVT 1.PRIMARILY COMP. ACT. 2.OTHER TOTAL FED GOVT	B.INSTITUTION 109 C. OTHER D. TOTAL 109	UT EXPENDITURES BY ITEM RENTALS SPACE NTENANCE	• 4 6	OTHER OTAL SALARIES AND WAGES OFF-CAMPUS COMPUTING SERVICE OTHER DIRECT COSTS INDIRECT COSTS TOTAL	ITEM IV CAPITAL EXPENDITURES YEAR COMPUTERS AND PERIPH. 1964-65	1965-66	,047a48

1968-69

LEVEL 4 POP. SIZE 11 POPULATION(RIGHT COLUMN)

TYPE 7

113

		SAMPLE CLEFT (TH	AMPLE SI (LEFT CO (THOU	E SIZE 9 T COLUMN) (THOUSANDS OF	POP. POPULA DOLLARS)	SIZE 1 TION(RIG	11 GHT COLUMN)	~ Z		
H II BY	SOURCE	CURREN	-	CAPITA	AL	TOTAL		PROJECTED	1968-69	
A. FED. GOVT 1.PRIMARILY 2.OTHER TOTAL FED	COMP. ACT.	71 133 204	## ## ## ## ## ## ## ## ## ##	104 101	123	132 173 305	161 211 372	362 150 512	4 11 4 4 6 0 6 10 10	
B.INSTITUTION C. OTHER D. TOTAL	· 	283	87 365	119	14 145	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	101 36 510	171 55 736	208 67 901	
III CURE COSI EQUIPME	RENT EXPENDITURE I ITEM NT RENTALS	JRES BY COST	T ITEM				REPORT 83	ING PERIOD 101	1968-69	PROJECTED 194
UILOIN THER M	SPACE						~	N	'n	•
A SYSTEM	>0	PR06.		NUMBER 7 8	1968-69 13 5	2 KT 2 KT • C	50	198		
OTHE	ID UINER FRUF		01	127	7.5	200	2	4	. ~ ~	0.0
TOTAL OFFEC	NRIES AND WAG IS compiting	SERVICE	21	5 2		.	142	201		
HER	DIRECT COSTS ECT COSTS GEN AD TOTAL	ZI	EXPEN				2 4 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	86.72 & 86.42 & 86.42 & 86.43	106 506 508	51 129 718
ITEM IV CAPITA Year 1964-65	ITAL EXPENDITURES COMPUTERS AND PER	RES) PERIPH.	BUILDINGS 40	68	FURNITURE 7	URE ETC.		TOTAL 47	27	
1965-66	72	87			CV.		~	74	06	
1966-67	110	134			•		2	116	141	
1967-68	125	152			€>		•	133	162	
1968-69	150	183			10	•	12	160	195	

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	69				968-69 PROJECTED 2559 671 334 334 863 4374 25 606 1422 9995	& ≈ ≈ 0
COLUMN)	PROJECTED 1968-69	1599	n in	10669 1690 14212	PERTOD 1 943 71 133 133 1785 1785 613	101AL 375 164 164 190 190 456
EL 1 Size 0428 Tiun(Right	TOTAL	1225	1225	4776 1515 7518	REPORTING 123 298 309 731	FURNITURE ETC. 264 247 197 191 366
SIZE 082 PO COLUMN) PUP	CTHUUSANUS UF UULLAN CAPITAL	746	746	1835 1126 3708	NIMBER 1968-69 130 101 283	235 171 156 316
CTL 1 Sample Sample(LEFT	CURRENT	478	478	2941 388 3810	URES BY COST ITEM NPROGES SERVICE SEN EXPEN	RES 0 PEKIPH. BUILDINGS 3259 1323 2299 1673 3876
	ITEM II BY SOURCE	1.PRIMARILY COMP. ACT.	TOTAL FED GOVT	B.INSTITUTION C. OTHER D. TOTAL	ITEM III CURRENT EXPENDITURES BY COST OST ITEM 1. EQUIPMENT RENTALS 2. BUILDING SPACE 3. OTHER WAINTENANCE 4. SALARIES AND WAGES 44. SYSTEMS AND UTILITY PROG. 45. OTHER 4 TOTAL SALAKIES AND WAGES 5. OFF-CAMPUS COMPUTING SERVICE 6. UTHER DIRECT COSTS 7. INDIRECT COSTS 7. INDIRECT COSTS	ITEM IV CAPITAL EXPENDITURES YEAR CUMPUTERS AND P 1964-65 1965-66 1966-67 1968-69 1968-69

1 NST (485)	**	1968-69	310	310	2345 100 2755	1968-69 PROJECTED 974 5 20 20 269 195 616 8 45 308 1980	267 286 286 775
CONIKACI	COLUMN)	PROJECTED 3				REPORTING PERIOD 244 1 60 96 76 232 4 16 999 999	TOTAL
1	LEVEL 2 POP. SIZE 0092 PUPULATION(RIGHT 0	TOTAL	7	7	610 2 198 7	REF 23 35 48 106	FURNITURE ETC 27 46 46 35 42 42
		CAPITA CAPITA	Ŕ	52	462 136 598 26	NUMBER 15 22 46 AN EXPEN	RUILDINGS 126
	SAMPI.E	ITEM II BY SOUNCE CURRENT		2.OTHER TOTAL FED GOVT	B.INSTITUTION C. OTHER D. TOTAL	17EM III CURRENT EXPENDITURES BY COST COST ITEM 1. EQUIPMENT RENTALS 2. BUILDING SPACE 3. OTHER MAINTENANCE 4. SALARIES AND WAGES 4A. SYSTEMS AND UTILITY PROG. 4B. ADMIN AND OTHER PROFESSIONAL 4C. OTHER 5. OFF-CAMPUS COMPUTING SERVICE 6. OTHER DIRECT COSTS 7. INDIRECT COSTS GEN ADMIN AND GEN	TTEM IV CAPITAL EXPENDITURES YEAR COMPUTERS AND PERIPH. 1964-65 1965-66 1966-67 1966-67 1968-69 720

PACE VI-A-29

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COLUMN)	PROJECTED 1	 1	8	17	02	TNG PFR	1923	85		300	S	•	1572	-	708	m	14 14	t				
EL 3 512E 0188 FIUNCRIGHT	TOTAL	311	361	4844	289 5498	REPORT			X	205	159	412	780				5 T 0	~	8	4	165 250	•
PE X LE 62 POP. POPUL OF DOLLARS	PITAL	94	94		37				ER 1968-69	90	2 ?	167	281				FILENTTINE	541	56	1290	173	· > -
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SAI	SQURCF CUI	COMP. ACT.	Gn∨T			NT EXPENDITURES BY ITEM	IPMENT RENTALS Loing Space	OTHER MAINTENANCE	AND WAGES	AND UTILITY PROS.	U GIFFR FROFESSIONAL		4 IUIAL SALAKIFS AND WAGES 4. DFF-CAMPHS COMBHING SFOUTCE	ECT COSTS	COSTS GEN ADMIN AND		AL EXPENDITURES COMPUTEDS AND PESTPH.		346	ກ ແ ຜ	C 60 60 60 60 60 60 60 60 60 60 60 60 60	
	ITEM II BY SOU	1.PRIMARILY	TOTAL FED		C. UTHER D. TOTAL	ITEM III CURRE COST	1. EQUIPMENT 2. BUILDING	OTH	4. SALAKIES	AA SYSTEMS	ATECA OF STATES AND ST	40. CITERS	A ILIAL SALA	6. OTHER DIR	7. INDIRECT	TOTA	PIT		1965-66	1466	1968-69	

SF C465		8=69	402	8 0 8 0 4	1968-69 PROJECTED 40592 1453 1899 12529 9790 9659 31979 234 6960 10288 93409	10461 14266 22016 33599
CONTRACT	COLUMN)	PROJECTED 1958	2966 1930 4896	6678 1108 12684	PORTING PERIOD 11077 469 1133 4092 4820 13471 257 3014 33184	TOTAL
	4 ZE 0132 ON(RIGHT	TOTAL	8270 8798 17069	23755 4098 44923	RE PROJ. 1506 818 2055 4380	TURE ETC. 432 410 768 1525
	1 TYPE X LEVEL SIZE 123 POP. SI COLUMN) POPULATI	PITAL	3243 2129 5373	5474 899 11746	ER 1968-69 650 411 1141 2203	1506 5523 7752 2036
•	SAMPLE SIZE 1 SAMPLE SIZE 1 SAMPLE(LEFT COLUMN)	CURRENT	5027 6668 11696	18280 3199 33177	Y COST ITEM NUMBER 6 4 4 4 4 4 11 11 22 CE	TPH. RUILPINGS
	S		IP. ACT.		INT EXPENDITURES BY CONTENT PENTALS SPACE NITENANCE AND WAGES AND WAGES AND WAGES AND WAGES SECT COSTS GEN ADMIN AND AL	AL EXPENDITURES COMPUTERS AND PFRI 8521 8332 13495
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T NSF C465	1968-69	1066 86 1152	3457 627 5237	1968-69 PROJECTED 959 15 119 119 503 503 508 1328 25 249 423 3125 1954 2111
CONTRACT	PROJECTED		•	RTING PERIOD 351 73 73 73 73 200 246 607 150 136 136 101AL
EL 2 Size 0702 Tiun(Right Co	TOTAL	275 59 335	2894 382 3611	PROJ. 46 61 175 205 205 17 90 84 40
LEV POPULA LLARS)		275	1572 376 2224	1968-69 PR 14 6 26 6 74 17 17 28 17 28 300 25
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	ITEM II BY SOURCE CURRENT A. FED. GOVI	U -	B.INSTITUTION C. OTHER D. TOTAL	COST ITEM 1. EQUIPMENT RENTALS 2. BUILDING SPACE 3. OTHER MAINTENANCE 4. SALARIES AND WAGES 44. SYSTEMS AND UTILITY PRNG. 46. OTHER 4 TOTAL SALARIES AND WAGES 5. OFF-CAMPUS COMPUTING SERVICE 6. OTHER DIRECT COSTS 7. INDIRECT COSTS ITEM IV CAPITAL EXPENDITURES YEAR 1964-65 1966-67 1966-67 1967-68 1968-69



69-690	619 116 116	2994 2554 7665	1968-69 PROJECTED 3563 164 104 1238 1351 924 3517 112 558 1578	466 539 1910 1338 7608 PAGE VI-A-33
R HT COLUMN) PROJECTED	329 72 401	2275 882 3561 1	REPORTING PERIOD 1271 1271 26 39 39 395 1080 55 180 477	TDTAL 9 0
LEVEL 3 POP. SIZE 027 POPULATION(RIG	183 168	267 475 931	1968-69 PROJ- 153 143 234 533	FURNITURE ETC. 62 49 103 103 100 219
SIZE COLUMN	141 72 213	2007 407 2628	NST ITEM SA 54 55 115 227 GEN EXPEN	8UTLUINGS 64 100 155 308
SAMPLE SAMPLECLEFT	CURRENT.		PENDITURES BY CALS NCE AGES TILITY PROG. IER PROFESSIONAL AND WAGES IPUTING SERVICE OSTS	(PENDITURES)TERS AND PFRIPH. 340 389 1652 929 5403
	ITEM II BY SOURCE A. FED. GOVI 1.PRIMARILY COMP. 2.OTHER TOTAL FED GOVT	B.INSTITUTION C. OTHER D. TOTAL	1TEM III CURRENT EXECUTEM 1. EQUIPMENT RENT 2. BUILDING SPACE 3. DTHER MAINTENA 4. SALARIES AND WAS SYSTEMS AND UMAB. ADTAL SALARIES 4. TOTAL SALARIES 5. DFF-CAMPUS COM 6. DTHER DIRECT C 7. INDIRECT COSTS	ITEM IV CAPITAL EXP YEAR COMPUT 1964-65 1965-66 1966-67 1957-68 1968-69

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	968-69	609	0 O	715 690	•	1968-69 PROJECTED	67.	334	•	83.90 84.40	. œ	0	5	9	1423		3782	90	06	36
COLUMN	PROJECTED 19		.	10	14	ORTING PERIOD	24.5	133	•	262	1 4	0	•	9	3610	TOTAL	!			
EL 1 Size 0925 Tiuncright	TOTAL	1225	1225	4776	S	REPOI			T .	173 200	309	731				ETC	92	197	0	S
TYPE X LEV 245 POP. NO. 1 ARS)	TAL	746	746	1835	~			•	# 1968-09	50 50 64	101	283				FURNITURE	ن	156	4	316
SAMPLE STZE 249 SAMPLE STZE 249 SAMPLE(LEFT COLUMN)	CURRENT	473	478	2641 368	3810	COST ITEM			NUMBER		į				2 1 X X X X X X X X X X X X X X X X X X	BUTLDINGS				
2 & &		COMP. ACT.	- >			EXPENDITURES BY	PACE	INTENANCE	STORES OF STORES	O UTILIT PROG. ATHEO PROFESCIONAL		AND WAGES	MPUT	COSTS	IISIS GEN AUMIN AND	L EXPENDITURES OMPUTERS AND PFRIPH.	3282	2310	1673	3870
	ITEM II BY SOURCE	PRIMARILY	TOTAL FED GOVT	B.INSTITUTION C. OTHER	D. TOTAL	III CURREN COST 1	LOING	OTHER MA	VAL AR I EV	AB ADMIN AND	DIHER	TOTAL SALAF	• OFF-CAMPIE	HER DIKE	• INUINECT C	CAPITA	964-65	9	9-196	1768-69

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	CIL X SAMPLE SIZE 142 SAMPLE(LEFT COLUMN) (THOUSANDS O	PE X LEVE 42 POP• S POPULAT OF DOLLARS)	L 2 12E 0794 10N(R1GHT CO	COLUMN)		
SOURCE		PITAL	TOTAL	PROJECTED	1968-69	
COMP. ACT. Govt	5.9	332 332	332 59 392		1376 86 1462	
	1783 142 1984	1719 438 2491	3504 580 4477		5802 727 7992	
COST ITEM COST ITEM COST ITEM EQUIPMENT RENTALS BUILDING SPACE OTHER MAINTENANCE SALARIES AND WAGES A. SYSTEMS AND UTILITY PROG. B. ADMIN AND OTHER PROFESSIONAL TOTAL SALARIES AND WAGES OFF—CAMPUS COMPUTING SERVICE OTHER DIRECT COSTS INDIRECT COSTS	FS BY COST ITEM NUMBER 22 SSIGNAL 55 INAL 163 IN AND GEN EXPEN	1968-69	жој. 69 91 91	REPORTING PERIOD 595 73 73 56 56 322 839 839 166 166 1984	1968-69	PROJECTED 1933 20 139 772 703 1944 1944 731
CAPITAL EXPENDITURES R COMPUTERS AND PERIPH. -65 -66 -67 -68 -69 -69	BUILDINGS	300 25 126 250 250	E ETC. 183 63 125 126 95	TOTAL	2491 446 661 2336	

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	SAMPLE SAMPLE SAMPLE SAMPLE	S17 C01	30 30 50 50 50 50 50 50 50 50 50 50 50 50 50	POP. SI PUPULATE	3 2E 0466 3N(RIGHT	. כטרתאא	E S		
K	CURRENT		CAPITA	Direkans/ AL	TOTAL		PROJECTED	1968-69	
A. FEU. GUVI 1.PRIMARILY COMP. ACT. 2.OTHER		357		282	9•	40		3321	
TOTAL FED GOVT		470		282	- 1	0 V		306	
ZC		6486		632	12	19	m ·	30331	
D. TOTAL		7626		~ (N		· K	m	5	
ITEM III CURRENT EXPENDITURES BY COST ITEM 1. EQUIPMENT RENTALS 2. BUILDING SPACE	JRES BY COST	T ITEM			Œ	REPORT	ING P	1968-69	PROJECTED 10433 1343
SALA		A LANGE	œ	1968-69 P	<u>~</u>		124		\sim
A. SYS	PRnG.		93	, M	286		~		6
AUM	FESTINAL		127	CO •	0		05		(C)
OTHER States	ę,		262	9	₹.				61
AMPUS	SERVICE		000	C T	-		0 0		7 7
)MIN AND GEN	N EXPEN					393 1185 7573		1120 3847 25507
APITAL EXPENDITUR COMPUTERS AND	ZES PFKIPH.	RUTLDINGS		FURNITURE	ام سا				
964=65	306		605) 	13		7	50	
	2237		126		2			0 0	
	16.48 84.10		481		26.5 26.0 26.0			2354 12407	
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1964-65 COMPLITER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJEGT CA65

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COLUMN)	PROJECTED 1968-69	630	101222	517	19209	TING PERIOD 1968-69 PROJE	1414 30	136 379	577 2174	34 1697	6500 0550	603	166 1241	63 1785	16604			199	23776	200	382	961
LEVEL 4 POP. SIZE 0269 POPULATION(RIGHT CO		244	407	3526	9734	REPOR		×	2533	1466	200	2				FIIDALTIIRE ETC.		0	862	40	4	05
× 7	CAPITAL	420 602	31695 909(529 773	5833 390	ÜSŢ ITĒM		NUMBER	170	781		8		GEN EXPEN		BITI DINGS		•	5016		•	_
JANAS	CURRE	v ACT.	GNVT			T EXPENDITURES RY C Tem Rentals	PACE	TENANCE No wage	NO UTILITY PROG.	OTHFP PROFESS		FIN AND	T COSTS	ISTS GEN ADMIN AND		IL EXPERDITURES INVOLLEDE AND PERTONS		() () ()	14893	707	294	28707
	TTEM II BY SOURCE	PRIMARILY	FED	-	C. OTHER	III CURREN COST)	BUILDING	3. OTHER MAIN 4. SALARIES A	. SYSTEMS	B. ADMIN A	C. CINER	SALAR	OTHER DIRE	. INDIRECT C	TOTAL	ITEM IV CAPITAL	0.446	0110	1769166	0100	9 1 c	1968-69

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AU3	드	S OF DOLLARS) APITAL	TOTAL	JECTED 1	69-896	
COMP. ACT.	17263 15452 32719	7385 3068 10456	24651 18523 43178	108	624 237 867	
	38793 7022 78544	11919 5999 28382	50720 13023 106935	142 25 276	105 135 139	
PENDITURES BY ALS NCE	COST ITEM NUMBER	1968-69	REPOR	TING PERIOD 27296 1605 2451	1968-69	8 8 5 8 8 8 8 8
AND UTILITY PROG. D OTHER PROFESSIONAL		w 0	063 164	6 4		P 9
S AND WAGES		40	478 741	200		021 946
S COMPUTING SERVICE ECT COSTS COSTS GEN ADMIN AND L	GEN EXPEN			625 9615 78516		761 14437 23870 206799
AL EXPENDITURES COMPUTERS AND PERIPH 18847 17449 27800 21179	4. BUILDINGS	FURNITURE 238 921 603	RE ETC. 1352 1305 2630	TOTAL	244 27004 44864 50422	

(Items V-VI of Questionnaire.) Provided Primarily for Support of Computer Equipment, Buildings, and Activities; Institutional Estimates by Stratum and Groups of Strata for Federal and Non-Federal Funds Contributions to Sponsored R & D; and Manufacturers' Contributions. VI-B.

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For stratum estimates the sample values are presented first and the corresponding population estimates follow to their right on the same line. All dollar amounts are in thousands and the number of institutions under "Funds not Adequate" are complete as presented. For each stratum, each grouping of strata by Type of Control and Highest Level of Offering, and all population estimates given. Sample values are also presented in stratum summaries.), the entries of Items V-VI of the questionnaire are summarized and the Group XXX) corresponding institutions

equipment and its buildings. For FY69 the institutions are expecting an estimated \$20,889,000 for this same purpose. During FY65 the manufacturers contributed \$17,606,000 to these institutions of the institutions funds to pay for computer services to Federal Sponsored R & D were short by an estimated \$3,884,000 and at about 38 institutions the shortage for non-federal sponsored R & D an estimated \$5,802,000 from all sources for the rental or purchase of digital computer in the form of educational discounts on purchase and rentals and other services related to the For FY65 the 106 public universities offering the doctorate (stratum 1 1 4, Page VI-B-3) maintenance and operation of the computer for research and instruction. At approximately 56 totaled approximately \$1,360,000. received e. g.

Strata Identification:

LEVEL = Highest Level of Offering	<pre>1 = Two to Four Years Beyond 12th Grade 2 = Bachelor's and/or First Professional Degree 3 = Master's and/or Second Professional Degree 4 = Doctor of Philosophy or Equivalent Degree 5 = Other</pre>
IYPE = Type of Institution	0 = Semiprofessional School 1 = University 2 = Liberal Arts College 4 = Teachers College 5 = Independent Technological School 6 = Theological or Religious School 7 = Other Independent Professional School
CIL = Type of Control	1 = Public 2 = Private

= Technical Institution

- Junior College

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	SAMPLE SIZE SAMPLE(LEFT &OLUMN) (THOUSANDS	4 4	POP. SIZE POPULATION DOLLARS)	POP. SIZE 4 POPULATION(RIGHT LLARS)	r column)	
SOURCE A.FEDERAL	OIG.COMP.EQUIP.JR BLD Rent.or Purch opr. Co	.JR BLDGS OPR. COST	CO: R+0+6	COMPUTER TIME FOR R+D+GRAD.INSTR. UNDE	4E FOR • UNDERGRAD.INSTR•	COMPUTER SCIENCE
B.NON-FEDERAL						
				m	6	
TOTAL				m	m	
TOTAL PROJECTED 1968-69				7 02	0.2	
ITEM VI. ADDITIONAL INSTITUTIO	INSTITUTIONAL AND MANUFACTURERS Funds no adequate am	TURERS COI TE AMOUN	RS CONTRIBUTIONS AMOUNT OF DEFICIENCY	INS CIENCY	HANUFACTURERS	CONTRIBUTIONS
FED. SPONSORED R+D NON-FED SPONSORED R-D TOTAL	0 - 4 0 - 4	4 4	4 4	CURRENT Capital Total	45 € 50 60 60 60 60 60 60 60 60 60 60 60 60 60	&

PAGE VI-B-3

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104445	

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	SAMPLI	SAMPLE SIZE SAMPLECLEFT COLUMN) (THOUSANDS	LE SIZE 97 FT COLUMN) (THOUSANDS OF	00	POP. SIZE 106 POPULATION(RIGHT LLARS)		COLUMNS			
SOURCE A.FEDERAL	DIG.CDI RENT.OR 4252	4P.EQUIP PURCH 4646	DIG.COMP.EQUIP.OR BLDGS RENT.OR PURCH OPR. CÖST 4252 4646 1659	R+D+	COMPUTER +GRAD.IN 1493	TIME FOR STR. UNDE 1631	COMPUTER TIME FOR R+D+GRAD.INSTR. UNDERGRAD.INSTR. 2 1493 1631 12 13	INSTR.	000 000 000 000 000 000 000 000 000 00	COMPUTER SCIENCE 53 724
B.NON-FEDERAL	1058	1156	366	399	397	433	202	220	96	104
TOTAL	5310	5802	2025	2212	1890	2065	214	233	759	829
TOTAL PROJECTED 1968-69	19116	20889	5614	6134	4623	5051	1437	1570	2949	3222
ITEM VI. ADDITIONAL INSTITUTIONAL FUNDS	G G	D MANUFACTU OT ADEQUATE	البا البا	RS CONTRIBUTIONS AMDUNT OF DEFICIENCY	IONS Ficienc	>-	MANUFACT	URERS	MANUFACTURERS CONTRIBUTIONS	TIONS
FED. SPONSORED R+D NON-FED SPONSORED R-D TOTAL	55 9 5 5 6	N W Q Q & N	3555 1245 4600	5 3884 5 1360 0 5245	4 CURRENT 0 CAPITAL 5 TOTAL	ENT	10446 5666 16112	11415 6191 17606	1415 6191 7606	

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CTL 1 TYPE 2 LEVEL 2 SAMPLE SIZE 12 POP. SIZE 48 SAMPLECLEFT COLUMN) POPULATION(RIGHT COLUMN) (THOUSANDS OF DOLLARS)

> SOURCE A.FEDERAL

OIG.COMP.EQUIP.OR BLOGS Rent.or Purch opr. Cost

COMPUTER

R+D+GRAD.INSTR. UNDERGRAD.INSTR.

COMPUTER TIME FOR

B.NON-FEDERAL

TOTAL

TOTAL PROJECTED 1968-69

TTEM VI. ADDITIONAL INSTITUTIONAL AND MANUFACTURERS CONTRIBUTIONS

MANUFACTURERS CONTRIBUTIONS FUNDS NOT ADEQUATE AMOUNT OF DEFICIENCY

FED. SPONSORED R+D NON-FED SPGNSORED R-D TOTAL

CURRENT 10 Capital Total 10

40

PAGE VI-B-4

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A . F.	8.NO	-	F	TTEM	ī Z
	4P.EQUIP.OR BLDGS COMPUTER TI PURCH OPR. COST R+D+GRAD.INSTR 39 30	CE COMP.EQUIP.OP BLDGS COMPUTER TIME FOR RENT.OR PURCH OPR. COST R+D+GRAD.INSTR. UNDERGRAD.INSTR 12 39 30 99	CE DIG,COMP,EQUIP,OR BLDGS COMPUTER TIME FOR RENT,OR PURCH OPR, COST R+D+GRAD,INSTR, UNDERGRAD,INSTR, 12 39 30 99	CE	CE RENT, OR PURCH OPR, COST R+D+GRAD, INSTR. 12 39 ERAL 12 39 PROJECTED 1960-69 220 733 ADDITIONAL INSTITUTIONAL AND MANUFACTURERS CONTRIBUTIONS FUNDS NOT ADEQUATE AMOUNT OF DEFICIENCY MANUFACTURERS CONTRI

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SAMPLE SIZE 7 POP. SIZE 7 SAMPLE SIZE 7 POP. SIZE 7 CHOUSANDS OF DOLLARS) CTHOUSANDS OF DOLLARS) DIG.COMP.EQUIP.OR BLDGS COMPUTER TIME FOR 10 10 10 10 10 10 10 10 10 20 550 50 20 20	MANUFACTURERS CONTRIBUTIONS	164
SAMPLE SIZE 7 SAMPLECLEFT COLUMN) P CTHOUSANDS OF DOL OIG.COMP.EQUIP.OR BLOGS RENT.OR PURCH OPR. COST 10 1	MANUFACTUR	164
SAMPLE SIZE 7 SAMPLECLEFT COLUMN) P CTHOUSANDS OF DOL OIG.COMP.EQUIP.OR BLOGS RENT.OR PURCH OPR. COST 10 1	S I ency	CURRENT Capital Total
SAMPLE SIZE 7 SAMPLECLEFT COLUMN) CTHOUSANDS OF OIG,COMP.EQUIP.OR BLOGS RENT,OR PURCH OPR. COST 10 10	CONTRIBUTIONS Jnt of Deficiency	21 22 23
SAMP SAMP SAMP OIG, COMP, E RENT, OR PUR		2 2 2 3 3 4 4
	MANUFACTURERS Padequate am	N N 4
•	IONAL AND M FUNDS NOT	0 O 4
1968-6	. INSTITUTIONAL FUNDS	R+D JRED R=D
SOURCE A.FEDERAL B.Non-Federal Total Total Projected 1968-69	VI. ADDITIONAL	FED. SPONSORED R+D NON-FED SPONSORED TOTAL

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	FUT				NOI	
	COMPUTER Science 5 17		50	22	CONTRIBUTIONS	
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116 16H	STR				>	ENT TAL
э х С	COMPUTER +GRAD • IN		~	S	UTIONS Deficiency	CURRENT Capital Total
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LEY OP. PUL.	COMPUTER TIM R+D+GRAD•INSTR• 3				~	17
PE 4 LEVEL 3 33 POP. SIZE 116 POPULATION(RIGHT OF DOLLARS)	a w	•	(C)	(A)	CONTRIBUTIONS IUNT OF DEFICE	
3 × 0	S + S				CON	W W
	8 00 1		•••	-	ERS	
L 1 TYI LE SIZE (FT COLUMN) (THOUSANDS	08 198				MANUFACTURERS Adequate am	
THOUSE THOUSE	001P, CH 133		133	400	UFA(EQU/	
CTL 1 MPLE LEFT CTH	URCI			4		~ ~
CTL 1 TY SAMPLE SIZE SAMPLE(LEFT COLUMN) (THOUSANDS	OIG.COMP.EQUIP.OR BLDG Rent.or Purch Opr. COS 38 133 1		38	114	DNAL AND MANUFACTU FUNDS NOT ADEQUATE	
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				69	ITUI	6
				68-	INSTITUTIONAL AND FUNDS NOT	8-0 0-
				19	1	SORED R+D Sponsored
				CTEC	ADDITIONAL	RED ONS(
		AL.		OJE	110	INSO SP
	SOURCE ERAL	OER	7	TOTAL PROJECTED 1968-69		FED. SPONSORED R+D NON-FED SPONSORED TOTAL
	SOL DERA	N-FE	TOTAL	OTAL	\ 1 \	ED.
	SOUR A.federal	B.NON-FEDERAL	-	–	ITEM VI.	r s
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	CTL 1 TYPE 4 SAMPLE SIZE 5 SAMPLECLEFT COLUMN) CTHOUSANDS OF D	4 LEVEL 4 POP. SIZE 5 POPULATION(RIGHT COLUMN) DOLLARS)	S HT COLUMN)	
SOURCE A.FEDERAL	DIG.COMP.EQUIP.OR BLOGS Rent.or Purch opr. Cost	COMPUTER TIME FOR R+D+GRAD.INSTR. UNDE	COMPUTER TIME FOR R+D+GRAD.INSTR. UNDERGRAD.INSTR.	COMPUTER
B.NON-FEDERAL			,	
TOTAL				
TOTAL PROJECTED 1968-69		10	10 5 5	
ITEM VI. ADDITIONAL INSTITUTIONAL AND MANUFACTURERS Funds not adequate am	TIONAL AND MANUFACTURERS CONF FUNDS NOT ADEQUATE AMOUNT	RS CONTRIBUTIONS AMOUNT OF DEFICIENCY	MANUFACTURERS CONTRIBUTIONS	ONTRIBUTIONS

70

70

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20

CAPITAL Total

CURRENT

FED. SPONSORED R+D NON-FED SPONSORED R-D TOTAL

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1964"65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465

ERIC Fruit Tax Provided By ETIC

LEVEL 2

TYPE 5

	COMPUTER Science				CONTRIBUTIONS	32 30 62
COLUMN	. FOR Undergrad. Instr.				MANUFACTURERS C	27 25 3 52 6
POP. SIZE 6 POPULATION(RIGHT OOLLARS)	COMPUTER TIME FOR R+D+GRAD.INSTR. UNDE				CONTRIBUTIONS Junt of Deficiency	CURRENT CAPITAL TOTAL
SIZE 5 COLUMN) HOUSANDS OF	DIG.COMP.EQUIP.OR BLDGS Rent.or Purch Opr. Cost 48 57	. 8	120			
SAMPLE SAMPLE(LEFT (T	DIG.COM Rent.or	52	100	1968-69	INSTITUTIONAL AND FUNDS NO	+0 ≥0 R=0
	SOURCE A.Federal	B.NON-FEDERAL	TOTAL	TOTAL PROJECTED	ITEM VI. ADDITIONAL INSTIPUTIONAL AND MANUFACTURERS FUNDS NOT ADEQUATE AM	FED. SPONSORED R+D NON-FED SPONSORED TOTAL

ERIC Provided by ERIC

	SOURCE	SAMPLE (LEFT SAMPLE (LEFT (T) (T)	100 H	L	POP. POPULA DOLLARS)	LEVEL 3 POP. SIZE 7 POPULATION(RIGHT COLU ILLARS) COMPUTER TIME FOR	COLUMN)	
	R.NON-FEDERAL			-				
•FEDERAL 1	TOTAL			-				
FFDERAL 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TOTAL PROJECTED 1968-69	103	120			4		
ECTED 1968-69 103	/I. ADDITIONAL INSTITU	_	MANUFACTU ADEQUATE	RERS AMO	TRIS OF	TONS	MANUFACTURERS	CONTRIBUTIONS
1 1 1 1 ECTED 1968-69 103 120 TIONAL INSTITUTIONAL AND MANUFACTURERS CONTRIBUTIONS FUNDS NOT ADEQUATE AMOUNT OF DEFICEENCY MANUFACTURERS	FED. SPONSORED R+D NON-FED SPONSORED R-D , TOTAL					CURRENT Capital Total	31 54 85	36 99 99

ERIC Provided by ERIC

	SAMPLECLEFT	SAMPLE SIZE ECLEFT COLUMN) CTHOUSANDS	PE 5 6 0F	LEVEL 4 POP. SIZE POPULATION DOLLARS)	6 CRIGHT	COLUMN)			
SOURCE A.Federal	DIG.COMP Rent.or F	DIG.COMP.EQUIP.OR ENT.OR PURCH OPR. 15 15	OPR BLDGS OPR COST	COM R+D+GR 20	COMPUTER TIME FOR R+D+GRAD.INSTR. UNDERGRAD.INSTR 10 25 25	FOR Ndergrad. I	NSTR.	COMPUTER SCIENCE 3	الله الله م
B.NON-FEDERAL					117 117				
TOTAL	15	15	20	20	142 142			m	(e)
TOTAL PROJECTED 1968-69	280	580			250 250	20	20	0 6	0
ITEM VI. ADDITIONAL INSTITU	INSTITUTIONAL AND M FUNDS NOT	MANUFACTURERS CONTRIBUTIONS F ADEQUATE AMOUNT OF DEFICE	ERS CON Amount	IS CONTRIBUTIONS IMDUNT OF DEFICIENCY	NS CIENCY	MANUFACTL	JRERS CI	MANUFACTURERS CONTRIBUTIONS	S
FED. SPONSORED R+D	8	~	50	20	CURRENT	253	253	e	
NON-FED. SPONSORED R-D TOTAL	0 4	0. 	10 60	9	CAPITAL Total	253	253	m	

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465

	SAMPLE	CTL 1 TY SAMPLE SIZE SAMPLECLEFT COLUMN) CTHOUSANDS	1.	E 7 LEV 8 POP. OF DOLLARS)	LEVEL 4 POP. SIZE 8 POPULATION(RIGHT LLARS)	SHT C	COLUMN		
SOURCE 1.FEDERAL	DIG.COM Rent.or 72	DIG.COMP.EQUIP.OR BLOGS Rent.or Purch opr. Cost 72 72 72 7	BLDGS COST	R+D+	COMPUTER 1 +GRAD.INS1 22	TIME FOR STR, UMDE 22	COMPUTER TIME FOR R+D+GRAD,INSTR, UMDERGRAD,INSTR, 7 22 22	2	COMPUTER SCIENCE 32 10^
I.NON-FEDERAL									
TOTAL	72	72	•	~	22	22		102	102
TOTAL PROJECTED 1966-69	330	330	92	85	35	\$0		115	115
TEM VI. ADDITIONAL INSTITU	INSTITUTIONAL AND M FUNDS NOT	MANUFACTURERS T ADEQUATE AM		CONTRIBUTIONS UNT OF DEFICE	RIBUTIONS Of DEFICIENCY		MANUFACTURERS	CONTRIBUTIONS	SNOT
FED. SPONSORED R+D NON~FED SPONSORED R-D TOTAL	m m vo	m m •o	8 T 8	23 13 36	3 CAPITAL 6 TOTAL	F =	167 54 221	167 54 221	

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465

	4.	CTL 1	TYPE 8					
	SAMPLE	SAMPLE SIZE SAMPLECLEFT COLUMN) (THOUSANDS	~	I PGP. SIZE 400 POPULATIUN(RIGHT DF DOLLARS)	T COLUMN)			
SDURCE A.FEDERAL	DIG.COMF RENT.OR F	DIG.COMP.EQUIP.OR ENT.OR PUNCH OPR. 68 383	BLDGS COST 28	COMPUTER TIME R+D+GRAD.I%STR. 157	TIME FOR TR. UNDER	. FOR UNDERCAD.INSTR 21 116	•	COMPUTER Science
A.NON-FEDERAL	139	783	ري دري	195		50 281	'n	59
TOTAL	201	1166	61	343		71 400	S	28
TOTAL PROJECTED 1968-69	39 261	1470	57	321		71 400	'n	28
ITEM VI. ABDITIONAL INSTI	INSTITUTIONAL AND MANUFACTURERS FUNDS NOT ADGOUATE AM	OMAL AND MANUFACTUR Funds not adgouate	RERS CON	RS CONTRIBUTIONS AMOUNT OF DEFICIENCY	MANUF	ACTURERS	MANUFACTURERS CONTRIBUTIONS	SHO
FED. SPONSORED R+D NON-FED SPONSORED R-D	I N M	28	28	157 CURRENT CAPITAL		108 305	608 1718	
7	•	45	58	157 TOTAL	•	413	2326	

CTL 1 TYPE 9 LEVEL 1 SAMPLE SIZE 8 POP. SIZE 20 SAMPLECLEFT COLUMN) POPULATION(RIGHT COLUMN) CTHOUSANDS OF DOLLARS)	DIG.COMP.EQUIP.OR BLDGS COMPUTER TIME FOR RENT.OR PURCH OPR. COST R+O+GRAD.INSTR. UNDERGRAG.INSTR. 155 387 2 5	
	SOURCE A.Federal	B.NON-FEDERAL

COMPUTER Science

MANUFACTURERS CONTRIBUTIONS AMOUNT OF DEFICIENCY TIONAL INSTITUTIONAL AND MANUFACTURERS CONTRIBUTIONS FUNDS NOT ADEQUATE 387 155 TOTAL PROJECTED 1968-69 ITEM VI. ADDI

CURRENT Capital Total

FED. SPONSORED R+D NON-FED SPONSORED R=D TOTAL

N

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	COMPUTER TR. SCIENCE				RS CONTRIBUTIONS	06	20 110
COLUMN)	COMPUTER TIME FOR R+D+GRAD.INSTR. UNDERGRAD.INSTR 5 46 46				MANUFACTURERS	06	20 110
	TIME ITR. U		46	65	_	12	A.
LEVEL 3 POP. SIZE 9 FOPULATION(RIGHT LLARS)	COMPUTER TIME FOR +GRAD.INSTR. UNDE 46 46		46	65	UTIONS DEFICIENCY	CURRENT	CAPITAL TOTAL
LEVEL POP. SI POPULATI	C0 R+D+G 25		25	20	CONTRIBUTIONS Unt of Defici	•	0
1 F 00	N		0	₽	CONTRIB DUNT OF	٥	•
Q .	P.OR BLDES OPR. COST 25		25	50			
L 2 TYF LE SIZE FT COLUMN; CTHOUSANDS	IP.OR OPR	10	•	_	FACTU		
CTL NAPLE	• EQUI	35	49	120	MANUE	•	-
CTL 2 SAMPLE SAMPLE(LEFT (TH	DIG.COMP.EQUIP.OR RENT.OR PURCH OPR	35	49	120	ONAL AND MANUFACTU Funds not adequate		-
S	REN				r I DNA! FUN!		
				TOTAL PROJECTED 1968-69	INSTITUTIONAL AND MANUFACTURERS FUNDS NOT ADEQUATE AM		2 - S
				CTED	IONAL	RED R	SPONSORED
	E CE	ERAL		PROJE	ADDIT	PONSO	7
	SOURCE A.FEDERAL	B.NON-FEDERAL	TOTAL	TOTAL	ITEM VI. ADDITIONAL	FED. SPUNSORED R+D	NON-FED TOT

ERIC Full text Provided by ERIC

	COMPUTER Science		505	977	2544		
	COM		493	216	2388	CONTRIBUTIONS	
	H STR.	1	m	199	1378		0 ~ ~
COLUMNS	FOR UNDERGRAD.INSTR		m	177	1294	MANUFACTURERS	5410 2590 11000
	TIME 578. 1281		492	1774	0969	>	ENT TAL
LEVEL 4 POP. SIZE 65 POPULATION(RIGHT LLARS)			462	1665	6532	Ş	CURRENT CAPITAL TOTAL
LEVEL POP. SI POPULATI DOLLARS)	COMPUT R+D+GRAD. 742 1203		489	5231	30	CONTRIBUTIONS UNT OF DEFICIES	1231 652 1883
51 51	S ⊢				12730		1156 612 1768
L 2 TYPI LE SIZE 6: FT COLUMN) CTHOUSANDS (.OR BLDG JPR. CGS 4451		459	4910	11947	TURERS (
	VEQUIP URCH 6529		1238	7768	11565	MANUFACTURERS ADEQUATE AM	27 20 47
SAMPLE CLEFT	DIG.COMP.EQUIP.OR RENT.OR PURCH DPR. 6128 6529 4		1162	7290	10854	TIONAL AND FUNDS NOT	20 10 10 10
,	SOURCE A.Federal	R.NON=FEDERAL		TOTAL	TOTAL PROJECTED 1968-69	ITEM VI. ADDITIONAL INSTITUTIONAL FUNDS	FED. SPONSORED R+D NON-FED. SPONSORED R+D TOTAL

COMPUTER SURVEY==SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CA65 1964-65

ERIC Full Taxt Provided by ERIC

NHOTOS
POP. SIZE 508 POPULATIONGRIGHT COLUMN DOLLARS)
ο <u>'</u>
6TL 2 TYPE 2 SAMPLE SIZE 81 SAMPLECLEFT COLUMN) (THOUSANDS OF

DIG.COMP.EQUIP.OR BLOGS RENT.OR PURCH OPR. COST SOURCE A.Federal

R+D+GRAD.INSTR. UNDERGRAD.INSTR. COMPUTER TIME FOR

COMPUTER Science

R.NON-FEDERAL

TOTAL

150

TOTAL PROJECTED 1968-69

1611 257

ITEM VI. ADDITIONAL INSTITUTIONAL AND MANUFACTURERS CONTRIBUTIONS Funds not adequate amount of deficiency

MANUFACTURERS CONTRIBUTIONS

8-0 FED. SPONSORED R+D NON-FED SPONSORED TOTAL

CAPITAL

CURRENT

492

3065

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	CTL 2 SAMPLE SAMPLECLEFT CTH	GTL 2 TYI AMPLE SIZE (CLEFT COLUMN) (THOUSANDS	PE 2 55 0F	LEV POP. POPULA DOCLARS)	LEVEL 3 POP. SIZE 172 POPULATION(RIGHT LLARS)	COLUMNS			
SOURCE A.FEDERAL	DIG.COMP.EQUI Rent.or Purch 28 87	DIG.COMP.EQUIP.OR BLDGS Ent.or Purch opr. cost 28 87 9	BLDGS COST	CC R+D+0 28	COMPUTER TIME FOR R+D+GRAD.INSTR. UNDERGRAD.INSTR. 18 2 6 11 34	: FOR UNDERGRAD	.INSTR.	SCI	COMPUTER Science
3.NON-FEDERAL							•	•	S
	16	20	12	37					
TOTAL	4	137	21	65	8	11	er er	•	ď
TOTAL PROJECTED 1968-69	69 443	1385	5	159	30 93		137	340	1043
TEM VI. ADDITIONAL INSTITUTIONAL FUND	ITUTIONAL AND M FUNDS NOT	AND MANUFACTURERS S not adequate am		CC 2	UTIONS DEFICIENCY	MANUFACTURERS			2 2
FED. SPONSORED R+D NON-FED SPONSORED R+D TOTAL	0 4	\$ F &	25 2 27	7 8 4	CURRENT CAPITAL TOTAL	143 341 484			

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1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465

	CTL 2 Sample Sample(Left (TH	CTL 2 TYNAPLE SIZE (LEFT COLUMN) (THOUSANDS	20 20 0F	LEV POP. POPULA DOLLARS)	LEVEL 4 POP. SIZE 22 POPULATION(RIGHT LLARS)		COLUMN)			
SOURCE A.Federal	DIG.COMP Rent.or F 463	DIG.COMP.EQUIP.OR BLDGS RENT.OR PURCH OPR. COST 463 509 21	8LDGS • COST 21	C R+D+	DMPUTER GRAD.INS	TIME I	COMPUTER TIME FOR R+D+GRAD.INSTR. UNDERGRAD.INSTR. 3 8 8 49 53	NSTR.		COMPUTER Science 25 27
8.NON~FEDERAL	20	22			15	16				-
TOTAL	483	531	21	23	23	25	64	SO SO SO SO SO SO SO SO SO SO SO SO SO S	56	28
TOTAL PROJECTED 1968-69	317	348	38	41	£ 63	179	26	61	61	19
VI. ADDITIONAL INSTITU	INSTITUTIONAL AND M FUNDS NOT	MANUFACTURERS ADEQUATE AMO	RERS CONTRIB Amount of		UTIONS Deficiency		MANUFACTURERS		CONTRIBUTIONS	IONS
FED. SPONSORED R+D NON-FED SPONSORED R-D TOTAL	ഗ സ ത	ഗ ന മ	6 8 8 8 8	68 23 91	CURRENT CAPITAL TOTAL	. AL	682 742	► 6 0	66 750 816	

ERIC

AFUIT TEXT PROVIDED BY ERIC

CTL 2 TYPE 4 LEVEL 3
SAMPLE SIZE 8 POP.SIZE 6
SAMPLECLEFT COLUMN; POPULATION(RIGHT COLUMN)
CTHOUSANDS OF DOLLARS;

SOURCE A.Federal

DIG.COMP.EGUIP.OR BLDGS COMPUTER TIME FOR RENT.OR PURCH OPR. COST R+D+GRAD.INSTR. UNDERGRAD.INSTR.

COMPUTER Science

R.NON-FEDERAL

TOTAL

TOTAL PROJECTED 1968-69

TOWAL INSTITUTIONAL AND MANUFACTURERS CONTRIBUTIONS TTEM VI. ADDIT

FUNDS NOT ADEQUATE AMOUNT OF DEFICIENCY

FED. SPONSORED R+D NON-FED SPONSORED R-D TOTAL

CURRENT 35 Capital Total 35

MANUFACTURERS CONTRIBUTIONS

ERIC

DIG.COMP.EQUIF.OR BLOGS RENT.OR PURCH SOURCE A.Federal

COMPUTER TIME FOR R+D+GRAD.INSTR.

COMPUTER Science

B.NON-FEDERAL

TOTAL

TOTAL PROJECTED 1968-69

MANUFACTURERS CONTRIBUTIONS IONAL INSTITUTIONAL AND MANUFACTURERS CONTRIBUTIONS FUNDS NOT ADEQUATE AMOUNT OF DEFICIENCY TTEM VI. ADDIT

FED. SPONSORED R+D NON-FED SPONSORED R+D TOTAL

15 CAPITAL CURRENT TOTAL

2 N 4

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ERIC Front Boy ERIC

					いりょう よりと こうせんことうう	C400
	SAMPLE	CTL 2 TY SAMPLE SIZE SAMPLECLEFT COLUMN) (THOUSANDS	L 2 TYPE 5 LE SIZE 5 FT COLUMN) (THOUSANDS OF	FOP. SIZE 6 POPULATION(RIGHT COLUMN)	6 GHT COLUMN)	
SOURCE A.Federal	DIG,COMP,EQUI Rent,Or Purch 53 63	G .	opr. Cost	COMPUTER SHE FOR R+D+GRAD.IMS UNDE	FOR UNDERGRAD, INSTR.	COMPUTER
B.NON-FEDERAL						
TOTAL	53	63				
TOTAL PROJECTED 1968-69	25	30	8	v		
ITEM VI. ADDITIONAL INSTITUT	INSTITUTIONAL AND MANUFACTURERS Funds not adequate am	MANUFAC T ADEQUA		CONTRIBUTIONS JUNT OF DEFICIENCY	MANUFACTURERS CONTRIBUTIONS	TRITIONS

180 186 188

> 150 157

CURRENT Capital Total

FED. SPONSORED R+D NON-FED SPONSORED R-D TOTAL

ERIC

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LEVEL

TYPE

	SAMPLEC	SAMPLE SIZE SAMPLE CIZE (THOUSANDS	, r	POP. POPUL OLLARS	POP. SIZE 9 POPULATION(RIGHT DOLLARS)		COLUMN		
SDURCE A.FEDERAL	DIG,COMP Rent,OR P 156	DIG.COMP.EQUIP.OR Rent.or Purch Opr 156 200	BLDGS • COST 10	# # # # # # # # # # # # # # # # # # #	COMPUTER GRAD. INS 30	TIME F STR: UN	COMPUTER TIME FOR R+D+GRAD.INSTR, UNDERGRAD.INSTR, 2 30 38	00 80	COMPLITER Science 77 98
B.NON-FEDERAL	25	32						90	64
TOTAL	181	232	10	12	30	38		121	163
TOTAL PROJECTED 1968-69	450	578	150	192	420	539		205	263
ITEM VI. ADDITIONAL INSTITU	INSTITUTIONAL AND FUNDS NOT	MANUFACTURERS PADEQUATE AM		TRIBU OF DI	CONTRIBUTIONS Unt of Deficiency	>	MANUFACTURERS	CONTRIBUTIONS	TIONS
FED. SPONSORED R+D NON-FED SPONSORED R-D TOTAL	4 W 4	w 00 F	588 33	K	755 CURRENT 42 CAPITAL 798 TÜTAL	TAT.	839 10 839 10	1078 1078	

ERIC Full Text Provided by ERIC

	53	
LEVEL 2	POP. SIZE 53	OLLARS
~	il.	
TYPE	4	5
	SIZE Cas itany	CTHOUSANDS OF
CTL 2	SAMPLE SIZE	
	AS	;)

COMPUTER

R+D+GRAD.INSTR. UNDERGRAD.INSTR.

COMPUTER TIME FOR

DIG.COMP.EQUIP.OR BLDGS ENT.OR PURCH OPR. COST RENT.OR PURCH SOURCE A.FEDERAL

B.NON-FEDERAL

TOTAL PROJECTED 1968-69

TOTAL

ITEM VI. ADDIT

MANUFACTURERS CONTRIBUTIONS 15 CURRENT CAPITAL TOTAL 'IONAL INSTITUTIONAL AND MANUFACTURERS CONTRIBUTIONS Funds not adequate amount of deficiency FED. SPONSORED R+D NON-FED SPONSORED R-D TGTAL

128

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ERIC

Full float Provided by ERIC

	computer Science			23	SNO		
	SCON			50	CONTRIBUTIONS	12	,c
CCLUMN)	: FOR Undergrad Instr.				MANUFACTURERS C	36	36
PE 7 LEVEL 3 11 POP. SIZE 13 POPULATION(REGHT OF DOLLARS)	BLDGS COMPUTER TIME FOR . COST R+D+GRAD.INSTR. UNDE				RS CONTRIBUTIONS AMOUNT OF DEFICIENCY	CURRENT	CAPITAL
SAMPLE SIZE SAMPLE SIZE SAMPLE SLEFT COLUMN)	DIG.COMP.EQUIP.OR BI Rent.or Purch opr. (30 35	AND MANUFACTURE S not adequate		
	SOURCE •FEDERAL	.NON-FEDERAL	TOTAL	TOTAL PROJECTED 1968-69	TEM VI. ADDITIONAL INSTITUTIONAL FUND	FED. SPONSORED R+D	NON-FED SPONSORED R-D TOTAL

ERIC Provided by ERIC

COLUMN)	COMPUTER TIME FOR R+D+GRAD.INSTR. SCIENCE 8 6 7					MANUFACTURERS CONTRIBUTIONS	98 119 119 145 217 265
	TIME FGR TR. UNDE		2	19	34	Ī	
POP. SIZE 11 POPULATION(RIGHT	TER TI INSTR				eri	¥C⊀	CURRENT Capital Total
LEVEL 'P. SIZIULATION'RS)	COMPUTER +GRAD.IN 6		2	16	110	TONS	18 CU 7 CA 25 TO
POP POPUL SULAR	R+D+	•	0	92	153	NTRIBUTIONS T OF DEFICIENCY	- ~
7 9 9 0 F	BLDGS COST 56	•		63	126 1	ERS CONT Amdunt	15 21
TL 2 TYP PLE SIZE: EFT COLUMN) CTHOUSANDS	DIG.COMP.EQUIP.OR Ent.or Purch Opr. 70 85	•	•	9 S	228	MANUFACTURERS CO Adequate amoun	0 - n
CTL SAMPLE SAMPLECLEFT	COMP.EQU OR PURCH 70 8		D	•		AND MA	
SAMP	DIG.CO Rent.Or 70			78	187	S	N → M
	SOURCE A.Federal	9.NON-FEDERAL		TOTAL	TOTAL PROJECTED 1968-69	ITEM VI. ADDITIONAL INSTITUTIONAL FUND	FED. SPONSORED R+D NON-FED SPONSORED R-D TOTAL:

ERIC Follows Provided by ERIC

	CTL 1 TYPE	1.1)
	SIZE	~		
	COLUMNS	DOLLARS		
SOURCE		GS COMPUTER TIME	FOR	COMPUTER
A.FEUERAL	00·	R+D+GRAD.INSTR.	. UNDERGRAD. INSTR.	SCIENCE
1	770	162	118	
B.NRN-FEDERAL				
	783	185	281	28
TOTAL	1553	348	900	28
TOTAL PROJECTED 1949-69	1470	321	400	28
	•	•		
ITEM VI. ADDITIONAL INSTITUTIONAL FUNDS	AND MANUFACTURERS NOT ADEQUATE AM	55	MANUFACTURERS CONT	CONTRIBUTIONS
FED. SPONSONED R+D	∞ ~	157 CURRENT	610	
NON-FED SPONSORED R-D	16		1718	
=	45	157 TOTAL	232 9	

ERIC*

LEVEL 2 OF SIZE 0092 PULATION(RIGHT COLUMN) ARS) COMPUTER TIME FOR COMPUTER TIME FOR +D+GRAD.INSTR. SCIENCE				MANIFACTIOED	CURRENT TO CONTRIBUTIONS CONTRIBUTIONS CONTRIBUTIONS CAPITAL
P. P. DOLL.			10	CONTRIBUTIONS ONT OF DEFICE	
SAMPLE SIZE 027 SAMPLECLEFT COLUMN) CTHOUSANDS OF CTHOUSANDS OF DIG.COMP.EQUIP.OR BLOGS RENT.OR PURCH OPR. COST	6 8	120	100	AND MANUFACTURERS NOT ADEOUATE AMO	
SOURCE A.FEDERAL	8.NON-FEDERAL	TOTAL	TOTAL PROJECTED 1968-69	ITEM VI. ADDITIONAL INSTITUTIONAL FUNDS	FED. SPONSORED R+D NON-FED. SPONSORED R-D

ERIC CAPACITATE PROVISED BY ERIC

CONTRIBUTIONS	MANUFACTURERS CONTRIBUTIONS 1266 371 1639	TIONS EFICIENCY 20 CURRENT 20 CAPITAL 40 TOTAL	RERS CONTRIBU Ambunt of D	TNSTITUTIONAL AND MANUFACTU FUNDS NOT ADEQUATE D D R-D 14	TEM VI. ADDITIONAL TNSTIT FED. SPONSORED R+D NON-FED SPONSORED R-D TOTAL
130	56	357	m	1253	TOTAL PROJECTED 1968-69
20	10	109	4	172	TOTAL
m		e			•NON-FEDERAL
COMPUTER Science 17	LAKS) COMPUTER TIME FOR R+O+GRAD.INSTR. UNDERGRAD.INSTR. 3	S) COMPUTER TIME +GRAD.INSTR. U	102 OF 00L	OIG,COMP,EQUIP,OR RENT.OR PURCH JPR.	SOUNCE FEDERAL
	CNMUJO	LEVEL 3 POP. SIZE 0188 POPULATION(RIGHT COLUMN)	т 63 Х	CTL 1 SAMPLE SIZE OC SAMPLE(LEFT COLUMN)	

ERIC AFUIT TRANS PROVIDED BY ERIC

	•	:		CONTRACT N	NSF C465	
	SAMPLE SIZE 123 SAMPLE SIZE 123	S POP SIZE 0132				
	STREET COLUMNS OF	00		COLUMN		
SOURCE	OIG.COMP.EQUIP.OR BLO		TER TIME FOR	FOR	COMPUTE	2
A.FEDERAL	RENT. OR PURCH OPR. COS	IST R+D+GRAD.INSTR.		UNDERGRAD. INSTR.	SCIENCE	
B.NON-FEDERAL	4733	1849		13	829	0.
	1156	399	550	220	104	4
TOTAL	5889	2249	2229	233	934	e
TOTAL PROJECTED 1968-69	21859	6419	5946	1645	3437	
ITEM VI. ADDITIONAL INSTITUTIONAL AND MANUFACTURERS FUNDS NOT ADEQUATE AMI FED. SPONSORED R+D NON-FED. SPONSORED R-D TOTAL	INNAL AND MANUFACTURERS (FUNDS NOT ADEOUATE AMOI 63 45 109	CONTRIBUTION DUNT OF DEFIC 3978 1385 5364	VS SIENCY CURRENT CAPITAL TOTAL	MANUFACTURERS CONTRIBUTIONS 12089 6245 18334	ONTRIBUTIONS 9 5	

CONTRACT NSF C465 -65 COMPLITER SURVEY -- SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT 1964

ERIC Full Text Provided by ERIC CTL 2 TYPE X LEVEL 2
SAMPLE SIZE 115 POP. SIZE 0702
SAMPLE(LEFT COLUMN) POPULATION(RIGHT COLUMN)
CTHOUSANDS OF DOLLARS)

COMPUTER SCIENCE

COMPUTER TIME FOR R+D+GRAD.INSTR.

SOURCE DIG.COMP.EWIP.OR BLOGS
A.FEDERAL RENT.OR PURCH OPR. COST

R.NON-FEDERAL

TOTAL 150

TOTAL PROJECTED 1968-69 1611

TIONAL INSTITUTIONAL AND MANUFACTURERS CONTRIBUTIONS ITEM VI. ADDI

MANUFACTURERS CONTRIBUTIONS AMOUNT OF DEFICIENCY FUNDS NOT ADEQUATE

FED. SPONSORED R+D
NON-FED SPONSORED R-D
TOTAL

TOTAL

CURRENT CAPITAL

3102 3200

86

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ERIC FULL TOWN HOLD SERVER

 OIG.COMP.EQUIP.OR BLOGS COMPUTER TIME FOR COMPUTER TREE FOR SCIENCE SCIENCE SCIENCE SCIENCE SCIENCE SCIENCE SA	37	249 90 52 34 25	1570 215 158 137 1086	ITTONAL AND MANUFACTURERS CONTRIBUTIONS FUNDS NOT ADEQUATE AMOUNT OF DEFICIENCY MANUFACTURERS CONTRIBUTIONS 10 6 CAPITAL 13 13
DIG.COMP.EQUIP.OR BLOGS RENT.OR PURCH OPR. COST 164	85	549		MSTITUTIONAL AND MANUFACTURERS FUNDS NOT ADEQUATE AMO 10 R-D 3
SOURCE A.FEDERAL	8.NON-FEDERAL	TUTAL.	TOTAL PROJECTED 1948-69	TTEM VI. ADDITIONAL TM FED. SPONSORED R+D NON-FED SPONSORED TOTAL

ERIC AFUIT TOX FENCE

124 554 80	13880	2072 CURRENT 724 CAPITAL 2797 TOTAL	N N		FED. SPONSORED R+D NON-FED SPONSORED R-D TOTAL
CONTRIBUTIONS	HANUFACTURE	UTIONS Deficiency	MANUFACTURERS CONTRIB ADEQUATE AMOUNT OF	INSTITUTIONAL AND MANUFA FUNDS NOT ADEQU	ITEM VI. APDITIONAL INSTIT
2874	1439	7812	13116	12719	TOTAL PROJECTED 1968-59
1168	241	1856	5342	8626	TOTAL
290	e	520	164	1301	8.NON-FEDERAL
COMPUTER SCIENCE 576	COLUMN) FOR ("ERGRAD.INSTR.	TION(RIGHT MPUTER TIME RAD.INSTR.	MN) NDS OF DO BLOGS COST 48	SAMPLECLEFT COLUSA (THOUSA OIG.COMP.EQUIP.OR RENT.OR PURCH OPR	SOURCE A.FEDERAL
		LEVEL 4	×	CTL 2	

1964-65 COMPUTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT Contract NSF C465

ERIC Afull Start Provided by ERIC

	TYPE	X LEVEL 1		
		POP° SIZE 0825 POPULATION(RIGHT	COLUMN	
		<u></u>	l	
SOURCE	ŏ		FOR 1	COMPUTER
A.FEDERAL	RENT.OR PURCH OPR. COST). INSTR	UNDERGRAD.INSTR.	SCIENCE
	022	162	118	
8.NON-FEDERAL			•	
	783	185	281	20
TOTAL	1553	348	004	20
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1964-65 COMPUTER SURVEY--SAUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT C465

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1964-65 CGMPUTER SURVEY--SPUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT CONTRACT NSF C465

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1964-65 COMPLTER SURVEY--SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT C465

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ERIC Pull text Provided by ERIC Distributions of Percentage of Use for Research and Instruction by Level and Academic Area. (Item VII of Questionnaire.) MI.

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instructed to distinguish between a not applicable, a zero, and a no-response the relative frequencies (RF) are of little use. Therefore for interpretation the frequencies (F) for the four class intervals 01-25, 26-50, 51-75, and 76-100 should be used and with the understanding that the numbers are biased on the low side (i.e., the estimates are likely to be less than the true values.) Since the respondents were not clearly Estimated theoretical frequencies (F) and relative frequencies (RF) are given for each cell of the Except for the right column of the questionnaire these estimates are presented in the same order as the cells appeared on the questionnaire. questionnaire.

are estimated to be using the computer for R & D and graduate instruction in Engineering. An estimated to be using the computer for R & D and graduate instruction in Engineering. An estimated 55 of these institutions have usage from 1% to 25% of their total usage in this category while approximately 21 have usage from 25% to 50% for R & D and Graduate Instruction in Engineering. An estimated 47 of these institutions have usage by outside organizations (EXTRA-INST) somewhere in the range of 1% to 25% of their initials.

Strata Identification:

CIL = Type of Control	TYPE = Type of Institution	LEVEL = Highest Level of Offering
1 = Public 2 = Private	<pre>0 = Semiprofessional School 1 = University 2 = Liberal Arts College 4 = Teachers College 5 = Independent Technological School 6 = Theological or Religious School 7 = Other Independent Professional School</pre>	<pre>1 = Two to Four Years beyond 12th Grade 2 = Bachelor's and/or First Professional 3 = Master's and/or Second Professional 1 4 = Doctor of Philosophy or Equivalent D 5 = Other</pre>

8 = Junior College 9 = Technical Institution

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SOUTHERN REGIONAL EDUCATION BUARD COMPUTER SCIENCES PROJECT 4-65 COMPUTER SURVEY 196

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F = EST. OF FREQUENCY IN POPULATION RF = F /(TOTAL F)

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INFORMATION IN CELL ENCLOSED BY ASTERISKS INCLUDES THREE CELLS ON RIGHT OF COLUMN OF ASTERISKS AS WELL AS THE TWO ABOVE IT.

F = EST. OF FREQUENCY IN POPULATION RF = F /CTOTAL F)

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F = EST. OF FREQUENCY IN POPULATION RF = F /(TOTAL F)



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F = EST. UF FREQUENCY IN POPULATION F = F /(TOTAL F)

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SOUTHERN REGIONAL EDUCATION BUARD COMPUTER SCIENCES PROJECT 1964-65 COMPUTER SURVEY

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INFORMATION IN CELL ENCLOSED BY ASTERISKS INCLUDES THREE CELLS ON RIGHT OF COLUMN OF ASTERISMS AS WELL AS THE TWO ABOVE IT.

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F = EST. UF FREQUENCY IN POPULATION RF = F /(TUTAL F)

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F = EST. OF FREQUENCY IN POPULATION RF = F /(TOTAL F)

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SUUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT C465 1964-65 COMPUTER SURVEY

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CONTRACT NSF C465 1964-65 COMPUTER SURVEY SOUTHERN REGIONAL EDUCATION BUARD COMPUTER SCIENCES PROJECT

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F = EST. OF FREQUENCY IN POPULATION IF = F /(TOTAL F)

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CONTRACT NSF C465

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ITEM VII UTIL RED AND GRADUATE INSTRUCTION	UNDER-GRAD INSTRUCTION	ON	TOTAL R&D AND INSTRUCTION 1964-65	TOTAL R&D AND INSTR- PRUJECTED 1968-69 ND

INFORMATION IN CELL ENCLOSED BY ASTERISKS INCLUDES THREE CELLS ON RIGHT OF COLUMN OF ASTERISKS AS WELL AS THE TWO ABOVE IT.

PAGE VII-17

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SOUTHERN KEGIUNAL EDUCATION BUARD COMPUTER SCIENCES PROJECT CONTRACT NSF 1964-65 COMPUTER SURVEY

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-INST LIBR. SCI. .49 CTR RF 44. .21 .78 COMP P C465 EXTRA 133 66 59 28 104 132 CUNTRACT NSF .28* .04* .20* .05* . 404 404 444 .87* .14* .12* *** **** RF TOTAL 39 37 00 33 115 **** 132 **** *6£° .08* .03 .53 AND EDUCATION .02 .03 .04 OTHER F RF 57 **4 m 6** 89 131 132 52 132 11 67 COMP.SCI. F RF . 34 .00 .03 .09 .04 0.0 61 • 01 132 46 86 132 49 32 200 SI ZE LEVEL POPULATIUN ESTIMATES SOC • SCI • F .01 .35 • 03 .64 .31 POP. 87 43 4 4 S 41 131 4 6 0 .03 90. .59 .30 .31 • 03 TYPE .01 123 **371**8 2007 32 S - 5 **@** O 36 32 SAMPLE .06 .13 .28 .48 .07 20 20 20 20 20 CT 10 30 58 18 37 67 64 33 COMBINED DIGITAL . 43 .38 •00 • 46 .43 •02 • 01 .24 .36 **X** ENG 12 61 57 132 L 4 8 33 49 133 CLASS LIMITS 9 76=100 51= 75 26= 50 01= 25 RESP=00 76-100 51- 75 76-100 51- 75 26- 50 01- 25 UTILIZATION 50 00 00 25 00 F TOTAL F Kt SP-26-01-KESP-20 2 S Z UNDER-GRADINSIRUCTIU INSTRUCTIO 1964-65 RED AND GRADUATE Instruction RRD Z z ITEM VII TUTAL

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CONTRACT NSF C465 SOUTHERN REGIUNAL EDUCATION BUARD COMPUTER SCIENCES PROJECT 1964-65 COMPUTER SURVEY

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CONTRACT NSF C465 SOUTHERM REGIONAL EDUCATION BUARD COMPUTER SCIENCES PROJECT 1964m65 COMPUTER SURVEY

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C465 CUNTRACT NSF SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT 1964-65 COMPUTER SURVEY

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SOUTHERN REGIONAL EDUCATION BUARD COMPUTER SCIENCES PROJECT 1964-65 COMPUTER SURVEY

ERIC Full Text Provided by ERIC

CUNTRACT NSF C465

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CONTRACT NSF C465 SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT 1964-65 COMPUTER SURVEY

LEVEL 2 TYPE X CTL X

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INFORMATION IN CELL ENCLOSED BY ASTERISKS INCLUDES THREE CELLS ON RIGHT OF COLUMN OF ASTERISKS AS WELL AS THE TWO ABOVE IT.

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SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT 1964-65 COMPUTER SURVEY

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C465 CONTRACT NSF SOUTHERN REGIONAL EDUCATION BOARD COMPUTER SCIENCES PROJECT 4-65 COMPUTER SURVEY 196

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CONTRACT NSF C465

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